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WHAT IS A NORMAL PELVIS?

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It may be surprising at first glance that the question of what constitutes a normal female pelvis should be presented as a subject for consideration. However, in the light of recent studies, I am of the opinion that this query does offer a basis for serious discussion.

In modern textbooks on obstetrics the normal female pelvis is differentiated from the normal male pelvis by characteristics of size and shape, which are generally recognized and which do not require delineation. One of the chief differences noted is the shape and size of the superior strait or inlet. In the normal male pelvis this plane is described as more or less round, with practically equal anteroposterior and transverse diameters. On the other hand, in the normal female pelvis the plane of the superior strait is described as more oval, the transverse diameter averaging 13 cm. and the anteroposterior 11 cm.

Four facts have a bearing on this query. In the first place the superior strait of the fetal and of the infant pelvis in the two sexes is similar. It is round or even presents a longer anteroposterior than transverse diameter. In the second place the adult male pelvis retains much of the fetal shape, the pelvic inlet being round with diameters of approximately equal length. In the third place the adult female pelvis of many aboriginal races retains much of the fetal conformation in the shape of a round pelvis. Finally, in white women in the United States the incidence of the round pelvis, and of pelves whose longest diameter of the inlet is the anteroposterior (the so-called anthropoid type) is far greater than has been hitherto suspected.

Because of these facts it appears, first, that possibly the material for study, from which the definition of the so-called normal pelvis has been derived, has been insufficient for proper evaluation and, secondly, that the so-called normal or oval pelvis is the result of the influences of civilization rather than those of race or sex. The fact that aboriginal races have easy labors is well established. If it is true that these women in general possess the round type of pelvic inlet it is at once clear that the round fetal head fits such a pelvis to far greater mechanical advantage than obtains in the "oval" pelvis of their civilized sisters.

In Jarcho's[1] recent review of the literature on this subject, the following statement is made:

> On the basis of comparative findings two types of pelves may be distinguished:
>
> 1. The round pelvis, in which the conjugata vera is as long or nearly as long as the other two diameters of the inlet. This type is found in the aborigines of America, Australia, and the East Indies.
>
> 2. The oval pelvis, in which the conjugata vera is more than one-tenth less than the other diameters of the inlet.

Upon studying the mass of statistics presented in Jarcho's work one is impressed with the comparatively small number of studies made on the fresh or the dried pelvis and the comparatively large number of data that have been derived from reviewing external pelvic measurements. With regard to the determination of the size and shape of the pelvic inlet by external pelvimetry, I would refer the reader to my recent communication[2] in which the fallacy of such a procedure is exposed by roentgenometric study. Prior to the employment of roentgenometry in obstetrics, exact information regarding the size and shape of the pelvic inlet in living women was not available.

It is probable, therefore, that roentgenometry will reconstruct views with regard to the characteristics of the female pelvis. That this has already occurred to a degree is witnessed by the unusual incidence in the population of what have been termed the "male" type and the "anthropoid" types of pelves emphasized by Caldwell and Moloy in 1933,[3] and by me in 1932,[4] 1933[5] and 1934.[6] The round or "male" type, and the elongated or "anthropoid" types of pelves, as I pointed out in 1932, are definitely associated with both primary and secondary occiput posterior positions. That these positions are frequently met during labor is shown not only by my own studies but by those of Pride,[7] who found in a roentgenologic study of 250 cases that at the beginning of labor the occiput was directed posteriorly three times as frequently as it was anteriorly.

Interesting, too, are the observations of J. T. Williams,[8] who in speaking of variations in types of female pelves divides them into "feminine" and "muscular" types. The increase in the incidence of the occiput posterior position and the narrowing of the pelvic outlet noted in the latter type of pelvis, are observations which correspond in general to my own observations in the "male" and the "anthropoid" types of pelves.

In a study in which I am now engaged there have been observed to date fifty consecutive primiparous patients, of whom twenty-three possess either the round or the elongated pelvis already referred to. I believe, therefore, that female pelves corresponding to the type seen in primitive women occur with far more frequency in women of this country than has hitherto

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1. Jarcho, Julius: The Pelvis in Obstetrics, New York, Paul B. Hoeber, 1933, p. 58.
2. Thoms, Herbert: Am. J. Obst. & Gynec. **27**: 270 (Feb.) 1934.
3. Caldwell, W. E., and Moloy, H. C.: Am. J. Obst. & Gynec. **26**: 479 (Oct.) 1933.
4. Thoms, Herbert: Am. J. Obst. & Gynec. **24**: 50 (July) 1932.
5. Thoms, Herbert: Surg., Gynec. and Obst. **56**: 97 (Jan.) 1933.
6. Thoms, Herbert: The Clinical Significance of Roentgenometry in Obstetrics, J. A. M. A. **102**: 602 (Feb. 24) 1934.
7. Pride, W. T. B.: X-Ray Diagnosis, paper read before the Central Association of Obstetrics and Gynecology, Oct. 29, 1931.
8. Williams, J. T.: Am. J. Obst. & Gynec. **3**: 345 (April) 1922.

been suspected. The question at once arises as to which is the normal pelvis, the round or the oval type.

Stoney [9] and Vaughan [10] have suggested that oval pelves are not truly the result of racial influence but are caused by the conditions of life in modern civilization. The former says that the oval pelvis of the civilized woman is due to lack of light and vitamin D. Vaughan emphasizes the causal relationship of other factors such as posture (especially in children) and points out that differences in pelvic development may be noted in the same race living under different conditions. Thus, women of India and China who work outdoors have easy labors, while those living in cities or in seclusion have difficult labors. Jarcho [11] quotes the Carnegie Trust Report for 1917, which emphasizes the "easy labors and large families among the Highland women who, barefooted, haul in the nets with the men, follow the plough and engage in field work." Incidentally, I may add that their diet probably consists largely of fish, which is a well known source of vitamin D.

The effect of civilization on an aboriginal people living under poor hygienic conditions in large cities is nowhere better shown than in the studies of J. Whitridge Williams,[12] who emphasizes the effect of such an environment in producing "rachitis and imperfect general development which play so conspicuous a part in the genesis of abnormal pelves in the colored race."

Miller,[13] in speaking of Williams' studies of rachitic pelves in the Negro women of Baltimore, makes the comment that

> he [J. W. Williams] works in a city which is essentially Northern in mode of life and his patients live in tenements and in typical tenement surroundings, whereas the Negro of the far South, both in the city and the surrounding country, whatever else he may lack has an abundance of fresh air and sunshine, the two arch enemies of rachitis. Levey's report from the Touro clinic I might add, corroborates these findings as to the relatively small percentage of contracted pelves among colored women in this part of the country.

In view of the facts that the so-called simple flat pelvis is frequently regarded as of rachitic etiology and that there is a great prevalence of at least the mild manifestations of rickets in the population, as witnessed by the excellent studies of Eliot [14] for the Children's Bureau, it is not difficult to see how the lesser grades of flattening of the superior strait could occur. Furthermore, it is not difficult to imagine a more or less general production of the oval type of pelvis.

The observations of Hess and his associates [15] are pertinent. These authors state that:

> Although the incidence and severity of rickets in the United States has decreased in the last five or ten years, it must not be thought that it has become a negligible disorder. A clinical survey of rickets which we carried out this winter [1930-1931] in New York City] among the poor who attended health stations showed that fully half the white infants and approximately three fourths of the Negro infants have definite signs of rickets.

The various facts that I have enumerated suggest two interesting points, both of which are, of course, entirely, speculative. First, the lack of the opportunity now provided by roentgenometry, of studying accurately a great number of pelves in living women prevented our predecessors in obstetrics from securing satisfactory data for the proper evaluation of the normal or standard pelvis. Second, the predominant type of pelvis which was formerly seen in clinics may have actually changed in character within a generation. When alterations are considered in environment surrounding female infants and adolescent children during the past twenty-five years, changes brought about not only by a great difference in diet, but by such influences as outdoor exercise and life in the open, it must be admitted that the environment for this group has changed indeed during that period. When one further considers the sedentary habits, the type of clothing, the diet and general restrictions that previously were a part of the life of female infants and children, may one not speculate as to the effect of such an environment on the adult form of the female pelvis. That changes in environment can affect skeletal changes in a large proportion of a population is witnessed in recent years by the extraordinary lessening of the incidence in children of severe rachitis.

CONCLUSION

As present-day studies of the pelvis, greatly aided by roentgenometry, increase, it is assured that a definite answer to the original question will be found. At the present time it would appear, from a purely obstetric point of view, that the adult female pelvis is preferably round rather than oval. It may be, therefore, that the query has already been answered by the pragmatism of nature.

New Haven Hospital.

9. Stoney, F.: Brit. J. Radiol. **3**: 426 (Sept.) 1930.
10. Vaughan, K.: Brit. M. J. **2**: 939 (Nov.) 1931.
11. Jarcho, Julius: The Pelvis in Obstetrics, p. 82.
12. Williams, J. W.: Obstetrics, ed. 5, New York, D. Appleton & Co., 1923, p. 840.
13. Miller, C. J.: Tr. Am. Gynec. Soc. **53**: 91, 1928.
14. Eliot, Martha M.: Children's Bureau Publication 217.
15. Hess, A. F.; Lewis, J. M., MacLeod, F. L., and Thomas, B. H.: Antirachitic Potency of Cows Fed Irradiated Yeast or Ergosterol, J. A. M. A. **97**: 370 (Aug. 8) 1931.

THE MEDICAL CARE OF PATIENTS FOLLOWING TOTAL THYROIDECTOMY

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Total thyroidectomy has been proposed by Blumgart, Levine and Berlin [1] as a method of treatment in certain forms of intractable heart disease. There naturally have arisen some objections to this apparently drastic procedure, particularly in regard to the thyroprivia and its sequelae. Our purpose in this report is to consider the aftercare of patients subjected to complete thyroidectomy, especially the treatment of myxedema. Because requests have been received from physicians asking for specific details of postoperative management and because in some instances patients have been dismissed from some hospitals shortly after the operation without further attention, this discussion appears to be timely. As patients both with angina pectoris and with congestive heart failure have been subjected to this operation, the postoperative management of the two conditions will be dealt with separately.

In those with angina pectoris, who as a rule do not have evidences of cardiac decompensation, the convalescent period following operation is usually short, uneventful and unattended by troublesome complications.

From the Medical and Surgical Clinics of the Peter Bent Brigham Hospital.

1. Blumgart, H. L.; Levine, S. A., and Berlin, D. D.: Congestive Heart Failure and Angina Pectoris: The Therapeutic Effect of Total Thyroidectomy on Patients Without Clinical or Pathologic Evidence of Thyroid Toxicity, Arch. Int. Med. **51**: 863 (June) 1933.

These patients often are allowed to become ambulatory forty-eight hours after operation and are permitted to leave the hospital from seven to ten days following operation. However, in this group the likelihood of sudden and unexpected death from coronary thrombosis or ventricular fibrillation is a constant menace. This risk may be aggravated by the emotional stress in anticipation of surgery or may be provoked by the operation itself. Fortunately, such a complication was a rare event in our cases. Within a period of four to eight

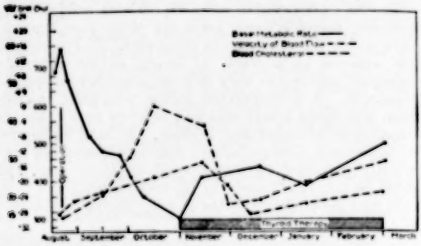

Chart 1.—Progress of a patient with angina pectoris. Note the fall in blood cholesterol and the rise in the basal metabolic rate following thyroid therapy (0.030 Gm. daily for one week and 0.015 Gm. daily thereafter).

weeks following operation the typical symptoms and signs of myxedema will almost invariably develop and require treatment.

It has been shown that the administration of thyroid extract to elderly arteriosclerotic individuals with myxedema [2] may induce attacks of angina pectoris or precipitate congestive heart failure and occasionally coronary thrombosis. Although on several occasions thyroid feeding has failed to reproduce attacks of angina after surgical myxedema, such dangers are imminent, and the necessity of cautious administration of the extract is obvious. A safe rule is to give 0.030 Gm. of the desiccated gland [3] daily for one week and to continue with a maintenance dose of 0.015 Gm. daily. The actual maintenance dosage should be determined by appropriate amelioration of the symptoms of myxedema, due regard being given to any possible untoward effects that the dosage might have on the circulation. In a very few instances, 0.015 Gm. of thyroid extract daily was not adequate and a slightly larger dose was necessary, but in general it will be found that small doses are more effective in these thyroidectomized patients than in the ordinary spontaneous myxedema encountered in practice. A typical postoperative course is graphically depicted in chart 1.

The aftercare of patients operated on for the relief of congestive heart failure presents a more complicated problem in therapeutics, particularly in its relation to the management of myxedema. The postoperative convalescence was necessarily longer than in the group with angina pectoris and depended on two factors: first, the degree of decompensation at the time of operation and, second, the rapidity of the circulatory response to the deprivation of the thyroid secretion. In cases in which cardiac compensation could be restored previous to operation by the usual medical measures, the period of convalescence in the hospital following operation was not longer than two or three weeks. After discharge, the medical regimen customarily employed in the treatment of chronic heart failure should be continued. The amount of physical effort to be permitted will naturally vary in different cases. In the group in which prolonged medical care failed to reestablish compensation and in which total thyroidectomy was done to lower metabolic demands to a level compatible with the lowered efficiency of the circulation, a much longer period of hospitalization was necessary. The full beneficial effects of the thyroidectomy did not became apparent until three or four weeks after the operation. When both signs and symptoms of heart failure disappeared, the patients were allowed to become ambulatory. As in the less seriously decompensated group, full digitalization should be maintained and a strict medical regimen observed. Occasionally it was found that less digitalis was necessary after than before operation. The eventual myxedema was effectively alleviated by thyroid extract in dosages similar to those outlined for the cases of angina pectoris. This regimen raised the basal metabolic rate from about minus 30 to a level of about minus 20, where it should be kept. A satisfactory course is shown in chart 2.

It is in this group with cardiac failure that the administration of an excessive amount of thyroid extract should be scrupulously avoided. The rise in the basal metabolic rate and the development of congestive failure can be quite rapid even on small doses of thyroid extract. This is well illustrated by the following case (chart 3):

A Negro, aged 52, with hypertension, chronic myocarditis and chronic auricular fibrillation, was operated on for the relief of intractable cardiac failure. With the subsequently lowered metabolism, compensation was restored and he was able to lead a comfortable life until myxedema appeared. At this time he was given thyroid extract in doses of from 0.030 to 0.045 Gm. daily. Within a period of fifteen days his basal

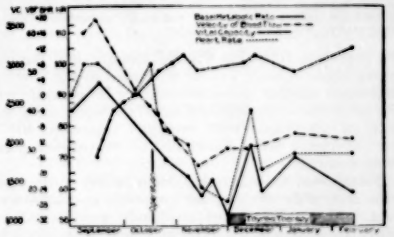

Chart 2.—Progress of a patient with mitral stenosis, auricular fibrillation and refractory congestive heart failure. Note the marked fall in heart rate parallel to the fall in the basal metabolic rate after operation and the subsequent rise in both on thyroid therapy.

metabolic rate reached a level of 0 per cent and decompensation abruptly recurred, as manifested by a marked rise in pulse rate, pulmonary and peripheral edema, orthopnea and Cheyne-Stokes respirations. The basal metabolic rate rose still further after the thyroid extract was omitted, but then there was a rapid return to the previous state of compensation, which is sill maintained eight months after the operation.

Myxedema has been the inevitable consequence of total thyroidectomy in all instances that were adequately followed. As a rule, the degree of myxedema was not

2. Christian, H. A.: The Heart and Its Management in Myxedema, Rhode Island M. J. **8**: 109 (July) 1925. Sturgis, C. C.: Angina Pectoris as a Complication in Myxedema and Exophthalmic Goiter, Boston M. & S. J. **195**: 351 (Aug. 19) 1926. Means, J. H.; White, P. D., and Krantz, C. L.: Observations on the Heart in Myxedema, with Special Reference to Dilatation and Angina Pectoris, ibid. **195**: 483 (Sept. 2) 1926.

3. Armour's thyroid extract was used in this study.

marked. The symptoms complained of were puffiness of the face, lassitude, muscular pains, dryness of the skin, arthralgia, and gain in weight. In some cases, determinations of the basal metabolic rates were not reliable indexes of the degree of myxedema. Checks such as the velocity of blood flow [4] and elevation of the blood cholesterol [5] are occasionally helpful in guiding the course of therapy. When such measurements cannot be made, observations of the clinical status of the patient at appropriate intervals will serve sufficiently well to regulate thyroid medication. An example of such a discrepancy is a patient with angina pectoris without congestive heart failure whose basal metabolic rate was plus 1 per cent but in whom the evidences of myxedema were unmistakable. The velocity of blood flow was found to be 40 seconds and the blood cholesterol 610 mg. per hundred cubic centimeters of blood. Thyroid therapy was given with beneficial results. Anemia was not encountered in our patients, probably because of the short duration of the myxedema. The association of psychosis with the hypothyroid state was encountered on only one occasion. This was in a patient with valvular heart disease and advanced congestive failure whose condition was but little improved by total thyroidectomy. There was no improvement in

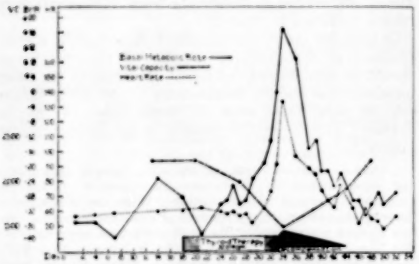

Chart 3.—Rapid development of marked congestive heart failure (indicated by the black triangle) as a result of thyroid therapy (from 0.030 to 0.045 Gm. daily). Compensation was readily reestablished when the thyroid extract was omitted.

the psychosis following thyroid therapy, and the psychosis might equally well be attributed to the effect of prolonged cardiac decompensation. In general, with the initiation of thyroid medication the signs and symptoms of myxedema were promptly controlled and in our experience easily maintained by the regimen previously outlined.

Tetany was an infrequent complication of the operation and, when evident, the symptoms and signs were mild, such as stiffness of the hands, paresthesias and muscular weakness. Trousseau's sign was invariably positive when tetany developed, but Chvostek's sign was found to be less reliable. When tetany occurred, it appeared within four to fourteen days after the operation and was readily controlled by the administration of from 5 to 10 drops of viosterol and from 4 to 8 Gm. of calcium lactate daily [6] for a period of from two to three weeks. In no instance were the symptoms of sufficient severity to demand parathyroid extract. After treatment there were no recurrences.

Injury to the recurrent laryngeal nerves may occur as a result of surgical trauma and is indicated by hoarseness and possibly aphonia. Hoarseness appeared in a few cases and persisted for a variable length of time, but as yet aphonia has not been encountered. There is no specific treatment for this complication.

SUMMARY

In the postoperative care of patients subjected to complete thyroidectomy, there are three complications with which the physician is concerned. 1. Hoarseness and aphonia as a result of injury to the recurrent laryngeal nerves was very rare and required no specific treatment. 2. Postoperative tetany was quite uncommon, was never severe and was relieved by the administration of viosterol and calcium. 3. Mild symptoms of myxedema occurred almost invariably, were not necessarily paralleled by a low basal metabolic rate, and could be controlled easily by thyroid medication.

It was generally desirable to keep the metabolic rate at a level of about minus 20.

It was found that smaller doses of thyroid extract were necessary to produce the same effect in surgical myxedema than in the spontaneous type.

Finally, these patients should be given the same sort of medical advice as is given to cardiac patients in general, except so far as improvement permits an increased range of activity.

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4. Blumgart, H. L.; Gargill, S. L., and Gilligan, D. R.: Circulation in Myxedema, with a Comparison of the Velocity of Blood Flow in Myxedema and Thyrotoxicosis, J. Clin. Investigation **9**:91 (Aug.) 1930. Robb, G. P., and Weiss, Soma: A Method for the Measurement of the Velocity of the Pulmonary and Peripheral Venous Blood Flow in Man, Am. Heart J. **9**:650 (June) 1933.

5. Mason, R. L.; Hunt, H. M., and Hurxthal, L. M.: Blood Cholesterol Values in Hyperthyroidism and Hypothyroidism: Their Significance, New England J. Med. **203**:1223 (Dec. 25) 1930.

6. Aub, J. C., in Cecil, R. L.: Textbook of Medicine, Philadelphia, W. B. Saunders Company, 1933, p. 1259.

SIALOLITHIASIS

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In searching for causes of pain, swelling and inflammation around the mouth and cheeks, the average practitioner frequently overlooks salivary calculi, because he rarely sees one.

As uncommon as salivary calculi are thought to be, one may be surprised at some figures quoted. Harrison [1] made a careful search of the literature from 1825 to 1926 and found 375 reported cases. He added twenty-seven of his own. When salivary calculi are found in the duct, they are usually oval or olive shaped; if formed in the gland, they are more apt to be round or irregular. They are usually single, but one author reports the removal of fourteen stones from one gland and its duct. Stones weighing as much as 236 Gm. have been reported. This particular calculus measured 1¾ inches long, 1 inch wide, and one-half inch thick. Bush [2] states that these concretions may vary in size from a millet seed to a walnut. Owing to the difference in their composition, the weight is not always proportional to the size.

One case was noted in the literature as occurring in an infant less than 1 month old. They are more common in males than in females. In about 75 per cent of all reported cases of salivary calculi the stones were in the submaxillary ducts or glands, about 20 per cent in the parotid and a small number in the sublingual ducts or glands.

1. Harrison, G. R.: Calculi of Salivary Glands and Ducts, Surg., Gynec. & Obst. **43**:431-435 (Oct.) 1926.

2. Bush, E. R.: A Case of Salivary Calculus in Wharton's Duct, Indianapolis M. J. **16**:232, 1913.

Badanes [3] believes that three principal substances contribute to their formation; namely, calcium oxalate, globulin and mucin.

Calcium oxalate enters into the formation either as a foreign constituent from some fruits or vegetables rich in oxalates, such as asparagus, rhubarb and tomatoes, or as a salivary constituent in disorders of metabolism from a pathologic condition, or as a result of faulty nutrition.

Globulin, which is always present in the saliva, mostly from the parotid secretion, is held in solution by the aid of the various salts present. Globulin is distinguished from albumin mainly by its insolubility in water. It may be precipitated from the saliva by weak acids or alkalis or a concentrated solution of neutral salts. It is also precipitated from a solution when diluted with pure water. The water one drinks with food precipitates globulin. In the churning act, while a bolus for deglutination is formed a small part of globulin, together with mucin and precipitated inorganic salts, is pressed into inaccessible places, where it finds protection, as in the gingival trough around the necks of the teeth and, unless removed by chemical or mechanical means while fresh and still soft, will remain until it hardens in the course of time.

Mucin is a glucoprotein, formed from mucigen, which is found as granules in goblet cells of secreting glands. It forms the chief constituent of the cementing substance between epithelial cells. In the saliva it exists as potassium mucinate in solution. Like globulin, mucin is precipitated from solution by weak acids which have a p_H range of about 1.5 to 4.9. It may also be precipitated from the saliva by strong alcoholic beverages. Mucin, in its precipitated form, swells up and is insoluble in water. It is soluble in weak solutions of neutral salts, such as chloride, sulphates and phosphates of sodium and magnesium, and will not be precipitated in their presence by acetic acid. A concentrated solution of sodium chloride renders sodium mucinate less soluble. Mucin dissolves in very weak solutions of alkalis, including lime water, but as calcium mucinate it is less soluble than as potassium or sodium mucinate.

Calcium carbonate and phosphate stones are sometimes formed around a foreign body nucleus.

SYMPTOMS

The symptoms vary. Some individuals may go for years without symptoms. There may be periodic attacks of colicky pain in the gland or duct involved. This is produced by retention of saliva and is accompanied by varying amounts of pain and discomfort in the region of the affected duct or gland, usually occurring immediately on eating or at the sight of food. The pain may be severe, especially when the patient attempts to swallow. A painful enlargement may occur, especially at mealtime. This may recede slowly, or, if the stone slips out of the duct so as to reestablish adequate drainage, the swelling may quickly disappear, at which time the patient may notice a sudden gush of saliva into the mouth.

Marked inflammatory symptoms may occur. If from prolonged blocking of the duct or for any other reason infection occurs, the mass may become tender, painful, red and swollen. Pus may be seen coming from the opening of the duct. A foul taste in the mouth, most frequently noticed after a night's rest, sometimes occurs when the stone causes a continuous low-grade infection within the gland or duct.

DIAGNOSIS

Usually the diagnosis of salivary calculus is easily made from the history, supplemented by bimanual palpation and roentgen examination.

It is questionable whether probing a duct as a diagnostic procedure is warranted, since the duct may be perforated during the procedure. If it is necessary, a method described by Blair seems simple. A hypodermic needle filled with a local anesthetic solution infiltrates the tissues around the duct as the needle is passed in an effort to locate the stone. The needle or sound may touch the calculus and produce a grating sensation. Occasionally the stone may be seen spontaneously extruding from the orifice of the duct.

Since salivary calculi are usually rich in lime salts, they can be easily roentgenographed. Hamlin [4] believes that negative reports are often the result of faulty technic. A calculus in the anterior two thirds of Wharton's duct can be readily demonstrated by using a 2½ by 3¼ inch film, placed horizontally between the teeth as far back in the mouth as possible, and by directing the rays from beneath the chin upward. A calculus in the posterior third of the gland itself will be best shown by taking a lateral view. The anterior two thirds of the duct cannot be demonstrated by a lateral picture because the duct will be obscured by the shadow of the mandible. Those in Stenson's duct can usually be shown on a small film held over the outside of the duct and parotid gland on the cheek.

DIFFRENTIAL DIAGNOSIS

Swelling of the parotid salivary gland must be differentiated from the following conditions: [5] Benign tumors such as fibromyxoma, endothelioma and teratoma are encapsulated, grow slowly, lie alongside the parotid gland, shell out easily and, if removed, do not recur. They may become quite large in years, if left alone. Carcinomas and sarcomas grow rapidly and soon involve the whole gland. They extend deeply among important structures such as the facial nerve and may cause facial paralysis. Swellings of the preauricular lymph glands due to pyogenic infection and syphilis must also be excluded. Mumps must not be forgotten.

Tumors of the submaxillary and sublingual glands are similar but more rare than those which occur in the parotid gland. Ranulas and mucous cysts of the floor of the mouth rarely offer much diagnostic difficulty. Lymphadenitis due to infection in the teeth or tonsils is frequently confused with sublingual or submaxillary enlargements. A careful history of the symptoms and examination as already described, together with roentgenograms of the teeth, will usually be adequate to rule out swellings due to dental origin. Ludwig's angina must also be remembered.

Mikulicz's syndrome is characterized by bilateral chronic swelling of the parotid or submaxillary or sublingual salivary glands. There may be a simultaneous swelling of the lacrimal glands. The spleen and lymph glands may also be enlarged. The syndrome is not due to a specific disease but usually results from lymphatic leukemia or less often from some infection such as tuberculosis, secondary syphilis or gout. Each of these

3. Badanes, B. B.: Magnesium: An Aid in Preventing Calculus Formation, Dental Cosmos **71**: 231 (March) 1929.

4. Hamlin, F. E.: Calculus of the Submaxillary Gland and Duct, Arch. Otol. **10**: 177 (Aug.) 1929.

5. French, Herbert: Index of Differential Diagnosis, ed. 3, New York, William Wood & Co., p. 694.

contributing factors can be easily ruled out by the proper diagnostic procedures.

PROGNOSIS

Salivary calculi may recur, as shown in an article by Boss.[6] Recurrences after operative removal are noted most frequently in the submaxillary and sublingual glands and ducts. The period between operative removal and recurrence has been noted to vary from a few months to five years. A recurrent attack may be due to (1) failure to recognize concretions of the excretory ducts of the salivary glands at operation during which these are often forced into the ducts, (2) breaking the calculus during removal and (3) transitory or permanent cicatrization of the salivary passages after removal of a stone without simultaneous extirpation of the gland. The universal preoperative use of roentgenography should localize and identify these calculi accurately so that all can be removed at the operation.

TREATMENT

The treatment may be medical or surgical or a combination of the two.

The essential medical methods include anything that will stimulate the salivary secretion. Belladonna in all forms should obviously be avoided. Simple massage of the duct may remove a stone if located in the anterior third. If acute inflammatory conditions exist, continuous hot fomentations and frequent oral irrigations with antiseptic washes should be carried out until such processes have subsided.

As stated earlier in this paper, mucin and globulin are both soluble in magnesium salts. Badanes [5] believes that, by incorporating 0.5 per cent each of magnesium chloride and magnesium sulphate into any good toothpaste, globulin, mucin and even calcium oxalate may be dissolved. Although these two salts have a slightly bitter taste, they may be easily disguised by the sweet taste of glycerin and aromatics used as flavors in toothpaste.

INDICATIONS FOR OPERATION

When salivary calculi are found in a duct or gland they should be removed, not only for the relief of pain, but also to prevent further pathologic changes from developing. As pointed out by Waring,[7] surgical intervention as a rule is uncomplicated, but a deep seated cellulitis of the cervical tissues has been known to follow the simple removal of a calculus.

OPERATIVE TECHNIC

Most surgeons believe that the stone should be removed by an intra-oral incision if it is situated in the sublingual gland or duct, the anterior two thirds of the submaxillary duct, or the buccal portion of the parotid gland. Total extirpation of the sublingual or submaxillary gland is indicated if a stone is present in the su'.stance of the gland or if there is inflammation of the gland, even though the stone is in the duct. It is not advisable to extirpate the parotid gland.

Calculi usually can be removed under local infiltration anesthesia. Blocking the lingual nerve, as in the mandibular injection for extraction of teeth, also gives excellent anesthesia.

A calculus may be seen impacted in or presenting itself at the orifice of the duct. Simple extraction with a forceps usually is adequate in such instances. If the stone is farther back in the duct, the duct may be fixed with tissue forceps or a suture, the duct incised parallel with the long axis, and the calculus removed with a scoop or forceps. If the stone has not previously been fastened, it may slip along the canal and enter the hilus of the gland. In nonsuppurative cases, the mucous membranes can be closed without drainage. If an acute inflammatory process or suppuration exists, a small strip of gauze packing or Penrose drain should be left in the incision. Since there may be considerable reaction following the operative procedures lasting for several days, frequent intra-oral irrigations, accompanied by the external application of ice, should be carried out. Drugs of various kinds may be indicated to control pain.

In cases of long standing in which multiple stones are present or when there is chronic inflammation, radical extirpation of the gland should be done. Bailey [8] says that if symptoms recur after the removal of a stone from Wharton's duct, the gland should be removed in every case. He has found that recurrent calculus often signifies that there are still other calculi within the gland. He also believes that there is a definite relationship between Ludwig's angina and acute inflammation of the submaxillary gland.

Radical extirpation of the gland is carried out as follows: The incision is made parallel to the lower border of the mandible, which is preferable to that used in the classic operation for ligature of the lingual artery, because the main vessels are encountered more easily and without forcible traction on the skin. The platysma myoides muscle is divided along the same line and turned up as a separate layer. The facial artery and vein are identified and divided between ligatures during the dissection of the gland. The inframandibular branch of the facial nerve should be preserved if possible. Its injury will cause drooping of the corner of the mouth, owing to paralysis of the triangularis menti muscle. Although improvement may occur in time, care during the surgical steps must be observed. The accident is difficult to avoid, but there is less chance of its occurrence if the incision is made well below the border of the jaw.

REPORT OF CASE

A white woman, aged 56, when first seen had a marked tender swelling involving the left sublingual salivary gland. The swelling pushed the tongue well over to the right side of the mouth. The patient gave a history of having had many similar attacks during the previous forty years. They always subsided spontaneously, but none had been as severe as this one. The attacks usually began when she was eating a meal. The submaxillary duct had been probed several times by her dentist, but without relief or diagnosis. During the past forty years, she always was aware of a foul taste in the mouth, especially on arising in the morning.

A diagnosis of left sublingual salivary calculus seemed most likely. The patient was in immediate distress and roentgenograms were postponed. She was advised to irrigate her mouth frequently with an antiseptic mouth wash and to apply continuous external hot fomentations over the swollen tissues.

When seen twenty-four hours later, a stone was presenting itself through the orifice of the left submaxillary salivary duct. It was easily extracted with forceps. Palpation revealed further stones, and two more were milked down the duct and extracted. When fitted together, they measured 3 cm. in length by 1 cm. in maximum diameter. They weighed 0.5 Gm. The pieces were faceted or articulated together, apparently

6. Boss, William: Speichelstein recidive, Beitr. z. klin. Chir. **146**: 222, 1929.

7. Waring, J. B. H.: Salivary Calculus, Virginia M. Monthly **58**: 193 (June) 1929.

8. Bailey, Hamilton: Stones in the Submaxillary Gland, Practitioner **126**: 671-674 (June) 1931.

having been broken off from one large duct stone, or, over a period of years of rubbing together, three separate stones had gradually fitted themselves end to end.

Following the extraction of the calculi, the swelling and pain rapidly abated and has not recurred since (one year). Moreover, the foul taste has been absent. Roentgenograms failed to reveal any further calculi.

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GAS BACILLUS INFECTION OF ABDOMINAL WALL

REPORT OF THREE CASES COMPLICATING ENTEROSTOMY

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Considering the great number of operations done for intra-abdominal infections, gas bacillus infection of the abdominal wall, as a complication, is quite rare.

In 1925, Ochsner and Schmidt [1] reported a case of gas bacillus infection of the abdominal wall following the drainage of an appendix abscess and removal of a gangrenous appendix. Butler [2] has recorded two infections of the abdominal wall, one following the removal of a perforated gangrenous appendix and the other following cecostomy. Shearer's [3] case of gas infection of the abdominal wall followed the removal of a nonruptured gangrenous appendix. King [4] describes a case following appendectomy, in which he stated that the smear showed a suggestion of Bacillus welchii. Extensive gas infections, following drainage of appendix abscesses, are recorded by Lamprecht,[5] Traver,[6] Douglas [7] and Miyamoto.[8] Butler and Rhodes [9] report two cases in which an extensive infection of the abdominal wall by the gas bacillus followed enterostomy for intestinal obstruction. Seven cases of infection of the abdominal wall with gas bacillus, following abdominal operation, are recorded by Eckhoff,[10] one of which followed enterostomy.

REPORT OF CASES

The following three cases are briefly noted as examples of gas bacillus infection of the abdominal wall, as a complication of enterostomy for intestinal obstruction:

CASE 1.—A. W., a man, aged 44, was admitted to the University of Kansas Hospital, March 29, 1932, and died, April 6.

There was a history of a rather atypical appendicitis with the development of an abscess in the right lower part of the abdomen, complicated by an obstruction of the small intestine. An operation was done the day following admission to the hospital through a right rectus incision. A large appendiceal abscess was found and drained. An enterostomy was done at the same time in the lower part of the ileum by the Witzel technic. Aerobic cultures made of the pus from the appendix abscess showed Staphylococcus aureus and a gram-positive bacillus. Two days following the operation the patient's temperature rose to 104 F. and he was irrational. Free drainage from the enterostomy tube and profuse drainage from the incision were noted. On the fifth day following operation, gas was noted in the subcutaneous tissues of the abdominal wall and in the wound. The wound showed a dark gray sloughing surface with a very foul odor. This suggested a gas bacillus infection. The cultures taken of the pus from the appendix abscess the day of the operation were then recultivated by an anaerobic method, and a gram-positive bacillus, producing gas, was found. An intravenous injection was made into a rabbit. The rabbit was killed five minutes later and left in an incubator for twenty-four hours. Extensive emphysema was found in the subcutaneous tissues and liver. Large numbers of gram-positive bacilli were present in the liver and recovered in anaerobic culture. This gram-positive bacillus morphologically and culturally resembled Bacillus welchii. An autopsy showed general peritonitis due to the ruptured appendix with necrosis of the skin about the abdominal incision.

CASE 2.—P. R. S., a man, aged 67, was admitted to the hospital, Nov. 28, 1933, and died, November 30.

There was a history of an old right femoral hernia. The onset of the present illness occurred four days before admission with abdominal pain and persistent vomiting. Examination revealed a strangulated femoral hernia. Study of the chemistry of the blood showed a high nonprotein nitrogen and a low chloride content. Operation was done the day of admission under local anesthesia. The bowel was in good condition and the hernia was reduced. Because of the marked distention and long duration of the hernia, a Witzel enterostomy was done through a small right rectus incision, the first loop of intestine presenting in this locality being used. Following operation, the next day, the patient had a temperature of 102 F. but appeared to be doing fairly well. The evening of the second day he grew very delirious. At the end of forty hours, discoloration and subcutaneous gas was noted in the abdominal wall, extending upward from the incision. This increased until it reached the axilla. Blisters formed in this area and the skin turned very dark, suggesting beginning gangrene. He died fifty hours following the operation. Cultures from the enterostomy wound showed a gram-positive, gas-producing organism resembling Bacillus welchii. A rabbit was injected and incubated. Smears and cultures from the rabbit showed an organism typical of Bacillus welchii. The autopsy showed an acute emphysematous cellulitis of the skin and subcutaneous tissue of the right side of the abdomen and thorax. A localized peritonitis with beginning gangrene of the intestinal loop was noted. The hernia wound was free from infection.

CASE 3.—J. B., a man, aged 62, was admitted to the hospital, March 15, 1932, and died, March 28.

There was a definite history and manifestations of acute intestinal obstruction of six days' duration. Because of his general poor condition, a Witzel enterostomy was done with local anesthesia through a left rectus incision. The omentum was interposed between the enterostomy and the abdominal wall. Distention of the small intestine was found, but the cause of the obstruction was not discovered. Five days after the enterostomy, marked drainage was noted from the abdominal wound, evidently a leakage from the intestine at the site of the enterostomy. The scrotum was edematous and his general condition was critical. Seven days following the operation, gangrene of the scrotum was noted with crepitation in the subcutaneous tissue, extending from the suprapubic region up to the enterostomy wound. Death occurred eleven days following enterostomy. General peritonitis was found at autopsy as a result of perforation at the site of the obstruction of the lower part of the ileum, and acute gangrenous cellulitis of the scrotum and abdominal wall. Cultures from the scrotum showed nonhemolytic streptococci and a short, plump, gram-positive bacillus. Anaerobic cultures made later showed a gas-producing organism of the Bacillus welchii type.

From the University of Kansas School of Medicine.

1. Ochsner, A. J., and Schmidt, E. R.: Gas Bacillus Infection Originating in a Gangrenous Appendix, S. Clin. North America **5**: 911 (Aug.) 1925.

2. Butler, D. D.: Postoperative Gas Bacillus Infection of the Abdominal Wall, Ann. Surg. **84**: 841 (Dec.) 1926.

3. Shearer, J. P.: Gas Gangrene of the Abdominal Wall Following Gangrenous Appendicitis, Ann. Surg. **90**: 1114 (Dec.) 1929.

4. King, W. E.: Gas Bacillus Infection in Civil Life, Am. J. Surg. **14**: 460 (Nov.) 1931.

5. Lamprecht, H.: Gasbrand bei Appendicitis, Arch. f. klin. Chir. **150**: 328 (April) 1928.

6. Traver, C. A.: Gas Bacillus Infection Complicating Appendicitis, New York State J. Med. **33**: 946 (Aug. 1) 1933.

7. Douglas, J., in discussion on Jennings, J. E.: The Relation of Welch Bacillus to Appendicitis and Its Complications, Ann. Surg. **93**: 840 (April) 1931.

8. Miyamoto, Masaji: "Gas-Edema" of the Abdominal Wall as a Very Rare Complication of Appendectomy, Taiwan Igakkai Zasshi **31**: 23, 1932.

9. Butler, E., and Rhodes, G.: Infection of Abdominal Wall with Bacillus Welchii Following Enterostomy for Bowel Obstruction, California & West. Med. **32**: 248 (April) 1930.

10. Eckhoff, N. L.: Gas Gangrene in Civil Surgery, Brit. J. Surg. **18**: 38 (July) 1930.

COMMENT

In the three cases cited, each presented a pathologic condition that might have caused death even though the gas infection had not been present. However, it seems very probable that the gas infection at least contributed to and hastened the lethal outcome. In case 2 the infection evidently developed directly from the enterostomy wound in the ileum. In each instance, the gas-producing organism probably came directly from the intestinal tract.

In considering the diagnosis of gas infection of the abdominal wall, it must be remembered that quite an extensive emphysema may develop following closure of an abdominal wound owing to the escape of retained air through the wound into the subcutaneous tissues. This observation was especially emphasized by Russell [11] in 1897. A beginning gas bacillus infection is likely to be associated with severe pain at the site of the wound, commencing from twelve to forty-eight hours after an operation. This may be considered one of the early warning symptoms of the onset of this type of infection. Other well known signs and symptoms, such as swelling, skin discoloration, crepitation, foul odor, and the finding of the typical bacillus, develop rapidly, necessitating hourly observations of any suspected wound.

It is quite reasonable to expect gas infections secondary to abdominal infections, since gas-forming organisms are more or less constantly found in the intestine. Jennings [12] found a positive culture of Bacillus welchii in 90 per cent of appendixes removed at operation. Williams [13] has expressed the belief that the toxemia of intestinal obstruction and peritonitis is due in part at least to the absorption of the toxin of Bacillus welchii, but such an assertion still lacks proof.

Since the gas bacillus is present in the small bowel and appendix in quite a high percentage of individuals, the use of antitoxin is quite logical in patients having operations that expose the tissues of the abdominal wall to infection from bowel content.

SUMMARY

Eighteen cases of gas bacillus infection of the abdominal wall following abdominal operations have been found recorded. To this number the three cases here briefly described are added. The diagnosis was not proved by culture in all cases, which made an error in diagnosis possible.

The mortality in the twenty-one cases has been 61 plus per cent.

Because of the possibility of gas infection of the abdominal wall following gangrene or abscess of the appendix, or any operation that involves opening the intestine, clinicians should be on the alert for this complication.

Any unusually severe pain developing in a postoperative wound within twelve to forty-eight hours should suggest the possibility of gas bacillus infection.

In the present state of knowledge, gas bacillus antitoxin seems to be of value in the treatment of gas bacillus infection and is recommended in such infections of the abdominal wall.

Bell Memorial Hospital.

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13. Williams, B. W.: The Importance of Toxemia Due to Anaerobic Organisms in Intestinal Obstruction and Peritonitis, Brit. J. Surg. **14**: 295 (Oct.) 1926.

OBSERVATIONS ON THE RELATIONSHIP OF THE VIRUS OF HUMAN INFLUENZA AND DOG DISTEMPER

PRELIMINARY REPORT

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Investigations that have been carried out during recent years have revealed that certain diseases of previously obscure etiology are caused by viruses—infectious agents so small that they are capable of passing through filters that hold back all known bacteria.

The list of these viruses is still increasing, and one of the latest additions has been described by Smith, Andrewes and Laidlaw [1] in a study of throat washings from influenza patients. These investigators inoculated ferrets intranasally with the bacteria-free filtrates from the throat washings and regularly observed the occurrence of a febrile condition in these animals, indicating an infectious process.

The ferret disease is characterized by a two-day incubation period, a diphasic temperature response and symptoms of nasal, catarrhal and systemic disturbances. The temperature rises often above 106 F.; it subsides on the third and fourth day but rises again on the fourth and fifth day, after which it gradually returns to normal. Systemic symptoms are lethargy, inappetence and muscular weakness. The eyes and nose show a watery discharge. The symptoms usually subside within from six to ten days, after which the ferret becomes perfectly normal. According to Smith, Andrewes and Laidlaw, the disease has never been fatal in ferrets in the sixty-four cases that they observed throughout the full course of illness. This experience has been confirmed by us in our experimental work with this virus.

The postmortem changes as observed by us coincide with those described by the original investigators and are as follows: In ferrets killed during the first and second febrile periods the mucous membrane of the nasal passages shows acute inflammation. Sections across the turbinate bones show, in the soft parts, acute vascular congestion, dilated lymph channels, numerous leukocytes passing out through the epithelium, and serious derangement of this structure. There is almost invariably complete disappearance of ciliated cells, and occasionally patchy necrosis of the whole thickness of the epithelium may be observed. No histologic feature, such as an inclusion body, has as yet been discovered that can be called characteristic of the disease.

For propagation of the virus, the English investigators employed the following technic: Throat washings from eight human cases diagnosed as influenza were inoculated into ferrets. Five of these produced the disease in ferrets. Six days following the onset of the disease in man, no virus was recoverable from the nasal discharges. The filtrate, prepared from an emulsion of the lung tissue from a fatal case of influenzal pneumonia, likewise produced the ferret disease. Throat washings from human subjects not suffering from influenza were noninfective.

From the Lederle Laboratories, Inc.

1. Smith, Wilson; Andrewes, C. H., and Laidlaw, P. P.: Lancet **2**: 66 (July 8) 1933.

Carefully checked experiments confirmed the filtrability of the virus. According to Smith, Andrewes and Laidlaw, ferrets recovered from the disease were immune to subsequent infection with the same strain of virus. In our own experiments, we found that only a percentage of such ferrets showed definite immunity. Others reacted to the second injection of the influenza virus with a rise in temperature.

EXPERIMENTAL DATA

During a visit to England in July 1933 the senior author secured a small amount of the dried virus for the purpose of testing the susceptibility of pigs in the United States to the influenza virus of man. The virulence of the virus was maintained through passage in ferrets and, in the course of this work, the virus, for some reason or other, lost its infectivity for ferrets. A fresh supply was obtained from Smith, Andrewes and Laidlaw, which, on arrival in our laboratory, proved infective for ferrets. This virus has been kept active through passage in ferrets for thirty generations.

The virus was propagated by instilling the virus into the nasal passages of the ferrets; two ferrets were used for this purpose. At the height of the reaction, one ferret was destroyed and the virus removed and preserved in the described manner. In due time, a large number of ferrets recovered from the influenza virus were accumulated.

It is our routine practice to employ ferrets in the testing of canine distemper virus and, not suspecting a possible relationship between this virus and that of influenza, we used some of the ferrets that had recovered from the influenza infection for tests with canine distemper virus. However, it was observed that these ferrets did not react to the virus of distemper in the same manner as they usually do to such virus injection. There was a very pronounced delay of the period of incubation and, in view of this peculiarity, it was deemed advisable to subject all the remaining ferrets to an injection with the distemper virus, eleven ferrets in all having been used. The results showed that the usual period of incubation of from nine to ten days following the injection of distemper virus was extended to from thirteen to seventeen days, and two of the ferrets proved apparently immune to distemper.

In view of our experience that the strain of distemper virus, with which these experiments were made and which has been studied in more than 800 ferrets, never has failed to kill these animals and always shows a uniform incubation period as previously mentioned; these results, even in the limited number of suitable animals at our disposal, clearly suggest that the animals which had recovered from the infection with influenza virus had acquired a resistance to the canine distemper virus. This resistance could not be due to local changes in the nasal mucous membrane caused by the influenza virus because the subsequent tests with the distemper virus were made by injection.

These interesting changes suggested a repetition of the experiments. A second series of eleven ferrets were given two and three nasal instillations of influenza virus and then were subjected to an injection of canine distemper virus in amounts that always proved fatal to susceptible animals. The results are tabulated in the accompanying table.

Of the eleven ferrets, six received only two instillations of the influenza virus, of which only one remained well. Of the five remaining ferrets which received three nasal instillations, three remained well. All ferrets that died showed a marked delay of the distemper symptoms, which is apparent when compared with the three control animals.

The Susceptibility of Ferrets to Canine Distemper Virus Following Nasal Instillations of Human Influenza Virus

Ferret	Nasal Instillations of Influenza Virus and Subsequent Temperature Reactions						Immunity Against Influenza	Dose of Canine Distemper Virus,* 1/20/34	First Appearance of Distemper Symptoms, Days	Results
	First		Second		Third					
	Date	Temp.	Date	Temp.	Date	Temp.				
20	11/29/33	104.6	12/21/33	104.5	.....	.....	None	0.1 cc.	15	Death in 19 days
21	11/29/33	103.0	12/21/33	103.9	.....	.....	Questionable	0.2 cc.	13	Death in 17 days
22	12/ 6/33	104.2	12/21/33	103.5	1/17/34	101.0	Immune	0.2 cc.	Remained well	Immune
23	12/ 6/33	104.0	12/21/33	103.4	1/17/34	103.0	Questionable	0.1 cc.	13	Death in 18 days
24	12/16/33	104.3	1/ 2/34	103.8	1/17/34	101.6	Immune	0.1 cc.	17	Death in 19 days
25	12/16/33	104.4	1/ 2/34	105.0	1/17/34	102.2	Immune	0.2 cc.	Remained well	Immune
30	12/21/33	104.5	1/ 2/34	103.6	1/17/34	102.4	Immune	0.1 cc.	Remained well	Immune
30	1/ 2/34	105.0	1/17/34	102.6	.....	.....	Questionable	0.1 cc.	15	Death in 19 days
31	1/ 2/34	104.1	1/17/34	104.4	.....	.....	None	0.2 cc.	Remained well	Death in 26 days†
33	1/ 2/34	105.4	1/17/34	104.4	.....	.....	None	0.2 cc.	17	Death in 19 days
35	1/ 2/34	103.6	1/17/34	102.6	.....	.....	Questionable	0.1 cc.	13	Death in 20 days
Controls										
36	.....	.....	.....	.....	.....	.....	.....	0.1 cc.	10	Death in 13 days
37	.....	.....	.....	.....	.....	.....	.....	0.1 cc.	12	Death in 15 days
38	.....	.....	.....	.....	.....	.....	.....	0.2 cc.	11	Death in 14 days

* Five per cent suspension of spleen tissue virus injected subcutaneously.
† Not distemper.

It is apparent from these experiments that the influenza virus induces some immunologic reaction in ferrets against the distemper virus. Limited cross-neutralization experiments and immunizing attempts with hyperimmune distemper serum against the influenza virus are now in progress and will be reported on at a later date.

From time to time, claims have been made of the close relationship of influenza in man and canine distemper in dog. However, no definite proof has been presented of the identity or the relationship of these viruses. The data submitted strongly point to the possibility of such a relationship and it is hoped that the experiments now in progress will further clarify knowledge with regard to these viruses.

CONCLUSIONS

The virus of influenza in man apparently induces an immunity in ferrets against the distemper virus of dogs.

The available experimental data, as indicated in this preliminary report, suggest a possible relationship of influenza in man and distemper in dogs.

Experiments are now in progress to determine the possibility of cross-immunization with the virus of influenza and the virus of distemper in dogs.

EFFECTS OF INTRAVENOUS ADMINISTRATION OF HYPERTONIC SOLUTIONS OF DEXTROSE

WITH SPECIAL REFERENCE TO THE CEREBROSPINAL FLUID PRESSURE

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Following the discovery that the introduction of concentrated solutions of various salts or of dextrose into the blood stream [1] or the gastro-intestinal tract [2] of an experimental animal causes a diminution in its cerebrospinal fluid pressure, hypertonic solutions have been administered clinically by different routes in attempts to reduce intracranial hypertension in patients suffering from brain trauma,[3] brain tumor,[4] meningitis [5] or brain edema with acute infections.[6] However, more recent observations both in animals [7] and in a small number of human beings [8] have indicated that the initial decrease in the tension of the cerebrospinal fluid induced by these methods is superseded within from one to three hours by a persistent rise in subarachnoid pressure and an exacerbation of the initial symptoms of intracranial hypertension.

The problem, therefore, appeared to require further investigation. It is my purpose in this paper to report a study of certain clinical and rachihydrodynamic effects of the intravenous administration of solutions of dextrose in various amounts and concentrations to eighty-five human subjects under controlled experimental conditions.

METHOD

Patients between 20 and 40 years of age and free of clinically determinable organic disease were chosen for this study. Ten grains (0.6 Gm.) of barbital was administered to each patient to promote relaxation. He was then allowed to rest in the right lateral position for half an hour, after which his pulse rate and blood pressure were determined. Lumbar puncture was then done under local anesthesia, and a glass manometer filled to the 150 mm. mark with sterile Ringer's solution was connected to the spinal needle with the loss of as little fluid as possible. When a satisfactory control reading of the patient's "basic" cerebrospinal fluid pressure [9] during from fifteen to sixty minutes had been obtained, solutions of dextrose in various amounts and concentrations were injected intravenously at the rate of from 10 to 20 cc. per minute, dextrose being chosen for use in this study because, in contrast to various electrolytic salts, it is apparently nontoxic when given intravenously in concentrated solution.[10] During the injection and for a period of from two to six hours thereafter, the patient's spinal fluid pressure was read at least every ten minutes; in addition, his pulse rate, blood pressure and general condition were recorded half-hourly during the experiment and also at various intervals during the ensuing forty-eight hours. In twenty-four cases, moreover, lumbar and/or cisternal punctures were performed eight, twelve or twenty-four hours after the administration of the dextrose in order to determine the general course of the cerebrospinal fluid pressure subsequent to the period of continuous observation.[11]

EFFECTS OF THE INTRAVENOUS ADMINISTRATION OF HYPERTONIC SOLUTIONS OF DEXTROSE

Clinical.—The administration of less than 55 Gm. of pharmacologically pure dextrose in simple 20 to 50 per cent solution produced no adverse symptoms in our subjects;[12] when, however, more than 100 Gm. of dextrose in greater than 20 per cent concentration was given intravenously to thirty-two patients, twenty-three of them subsequently complained of headaches, backaches or peripheral nerve pains, which began from one-quarter to one hour after the injection of the dextrose and persisted during the ensuing three to thirty hours. Concentrations of dextrose of from 35 to 50 per cent produced pain in the injected vein in about 35 per cent of cases, but none of our patients developed an overt phlebitis. Of the twenty-four patients who received 185 Gm. or more of dextrose, fourteen subsequently showed elevations of temperature reaching 100 to 102.8 F. in from three to five hours, with subsidence to normal in from three to eleven hours. Since eight of the sixty-one patients who received 100 Gm. of dextrose or less also had some degree of pyrexia, the possibility of pyrogenic impurities [13] in some of the dextrose preparations cannot be altogether excluded.

Contrary to previous comparable observations,[14] no constant rise in systemic arterial blood pressure after

From the Baltimore Psychopathic Hospital. Thanks are due to Dr. Harry Goldsmith, director of the hospital, for his cooperation in this work.

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10. Howe, H. S.: Experimental Studies in the Reduction of the Normal Cerebrospinal Fluid Pressure in Cats, in The Human Cerebrospinal Fluid, Association for Research in Nervous and Mental Diseases, New York, Paul B. Hoeber, Inc. **4:** 220, 1926.

11. In a separate series of experiments, 5 cc. samples of spinal and/or cisternal fluid were withdrawn at intervals of from one-half to twenty-four hours after the intravenous adminstration of the dextrose, the samples of fluid being examined for cell content and also for quantitative determinations of dextrose in relation to the simultaneous concentration of this substance in the blood. The results of these studies will be reported elsewhere.

12. This observation is in accord with the fact that 250 cc. of a 20 per cent solution of dextrose seemed actually efficacious in preventing or ameliorating postpuncture headaches in a separate series of patients subjected to rapid drainage of from 20 to 50 cc. of spinal fluid (Masserman, J. H.: Central Nervous System Shock and Edema Following Rapid Fluid Decompression of the Ventriculosubarachnoid Spaces, J. Nerv. & Ment. Dis., to be published).

13. Seibert, F. B.: Fever-Producing Substances Found in Some Distilled Waters, Am. J. Physiol. **67:** 90 (Dec.) 1923.

14. Weed, L. H., and Hughson, W.: Systemic Effects of the Intravenous Injection of Solutions of Various Concentrations, with Especial Reference to the Cerebrospinal Fluid Pressure, Am. J. Physiol. **58:** 53 (Nov.) 1921. Sachs, Ernest, and Malone, J. G.: Use of Hypertonic Salt in Experimentally Increased Intracranial Pressure, Am. J. Physiol. **55:** 277, 1921.

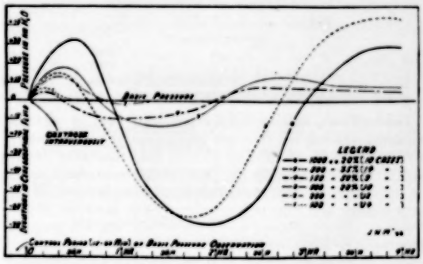
the injection of hypertonic solutions was observed, nor was there any significant effect on the pulse rate.

Effects on the Cerebrospinal Fluid Pressure.—The average deviations of the cerebrospinal fluid pressure following the intravenous injection of various amounts and concentrations of dextrose are plotted in the accompanying chart. To summarize the data: 1. The administration of 10 per cent dextrose intravenously to sixteen patients produced an increase in cerebrospinal fluid pressure whose duration and height were in direct proportion respectively to the amount of solution administered and to the speed with which it was injected; no consistent secondary deviations in the cerebrospinal fluid pressure were observed with the isotonic preparations.[15] 2. Similar but somewhat smaller initial rises in cerebrospinal fluid pressure were produced by the injection of the hypertonic solutions. 3. When more than 75 Gm. of dextrose was administered in from 20 to 50 per cent solution, this initial effect was followed by a fall in cerebrospinal fluid pressure of from 26 to 162 mm. of water, the curve of pressure reaching its nadir at from 50 to 170 minutes after the injection. 4. In the ensuing 50 to 120 minutes, the cerebrospinal fluid pressure then recovered to the basic level, after which (5) the upward trend continued until levels of cerebrospinal fluid tension of from 8 to 148 mm. above normal were reached and, in most cases, maintained throughout the remainder of the period of continuous observation.

In the twenty-four cases in which puncture was done at from eight to twenty-four hours after the injection of dextrose, the mean of the cerebrospinal fluid pressure readings, taking into consideration the range of normal variability of the basic cerebrospinal fluid pressure,[9] did not differ significantly from the mean of the initial spinal pressures of the same patients before the injection of dextrose. It appears, therefore, that in the majority of cases the reactive intracranial hypertension had subsided within eight hours after the administration of the dextrose.

COMMENT

The initial rise of cerebrospinal fluid pressure during the intravenous administration of the dextrose solutions is apparently an expression of the concomitant increase in cerebral venous tension produced by the rapid injection of fluids into the circulation [16] and probably has no other immediate significance. On the other hand, the ensuing diminution in subarachnoid pressure in cases in which the dextrose had been administered in effective concentration [17] is of greater physiologic importance and may be attributed both to a resorption of the spinal fluid [18] and to a diminution in the volume of the nervous tissue itself.[19] Conversely, the rise of cerebrospinal fluid pressure to normal and above subsequent to the period of depression would then theoretically be due to (1) an increased rate of dialysis of cerebrospinal fluid from the blood, which had meanwhile been rendered relatively hypotonic to the cerebrospinal fluid through the loss of dextrose and salts in the urine, and (2) the deposition of dextrose in the nervous tissues with ensuing compensatory intercellular and intracellular edema.[20] The possibility of the latter two effects is of prime clinical importance, since they may well account for the recurrence and exacerbation of symptoms of increased intracranial pressure after a transient initial improvement in patients suffering from intracranial hypertension treated by the intravenous administration of various types of hypertonic solutions.[21]



Mean deviations in the pressure of the cerebrospinal fluid in sixty-nine human subjects following the intravenous injection of hypertonic solutions of dextrose at rates ranging from 10 cc. per minute for 100 cc. to 20 cc. per minute for 1,000 cc. of the solution. Although the data in each series are not sufficiently numerous to justify explicit statistical derivation, the respective curves nevertheless represent deviations in cerebrospinal fluid pressure of such relative constancy as to render the experimental results clinically significant.

SUMMARY

The effects of the intravenous injection of solutions of dextrose in various amounts and concentrations were studied in eighty-five normal patients. The administration of 50 Gm. or less in 20 per cent solution produced no untoward clinical sequelae other than diuresis; however, the intravenous injection of 100 Gm. or more in 35 to 50 per cent solution caused headaches and other adverse symptoms in 72 per cent of cases, whereas 58 per cent of the patients receiving 185 Gm. or more suffered transient pyrexia. The intravenous administration of isotonic solutions caused a transient increase in cerebrospinal fluid pressure; with hypertonic solutions in effective concentration (100 to 200 Gm. in 20 to 35 per cent solution) this initial rise was followed by a secondary fall in cerebrospinal fluid pressure.

15. To simplify the chart, the curves plotted from these data are omitted, as are the designations of the numerous coordinative points to which the average curves for the hypertonic solutions were approximated.

16. Weed, L. H., and Hughson, W.: Spinal Fluid Pressure in Relation to the Bony Encasement of the Central Nervous System as a Rigid Container, Am. J. Physiol. **58**:85 (Nov.) 1921; Intracranial Venous Pressure and Spinal Fluid Pressure as Affected by Intravenous Injection of Solutions of Various Concentrations, ibid. **58**:101 (Nov.) 1921.

17. This diminution in cerebrospinal fluid pressure seems of potential therapeutic value in cases in which it is imperative to break the vicious cycle of a rapidly progressive intracranial hypertension and resultant cerebral ischemia. However, such decompression as is possible in this way may in suitable cases be accomplished through slow, oft-repeated spinal drainages (Jackson,[8a] Masserman [8]) without the risks apparently attendant on the intravenous use of strongly hypertonic solutions.

18. Foley, Frederick: Resorption of the Cerebrospinal Fluid by the Choroid Plexus Under the Influence of Intravenous Injections of Hypertonic Salt Solutions, Arch. Neurol. & Psychiat. **5**:744 (June) 1921. Weed, L. H.: The Absorption of Cerebrospinal Fluid into the Venous System, Am. J. Anat. **31**:3 (Jan.) 1923. Forbes, H. S.; Fremont-Smith, Frank, and Wolff, H. G.: Resorption of the Cerebrospinal Fluid Through the Choroid Plexus, Arch. Neurol. & Psychiat. **10**:73 (Jan.) 1928.

19. Weed, L. H.: The Effect of the Intravenous Injection of Solutions of Various Concentrations on the Central Nervous System, Anat. Rec. **16**:167, 1919. Ebaugh, F. G., and Stevenson, G. S.: Measurements of Intracranial Pressure Changes in an Epileptic and Its Experimental Variations, Bull. Johns Hopkins Hosp. **31**:440 (Dec.) 1920. Aycock, W. L.: The Effects of Salt Solution of Various Concentrations upon Cerebrospinal Fluid Pressures in the Human Cerebrospinal Fluid, Association for Research in Nervous and Mental Diseases, New York, Paul B. Hoeber, Inc. **41**:220, 1926. Weed.[16]

20. Hoff, Hans: Experimentelle Studien zur Frage des postkommatiellen Hirn-ödems, Ztschr. f. d. ges. Neurol. u. Psychiat. **129**:583, 1930. Browder.[8b] Milles and Hurwitz.[8c] Jackson and others.[8d]

21. Foley, F. E. B.: Clinical Use of Salt Solutions in Conditions with Increased Intracranial Tension, Surg., Gynec. & Obst. **33**:126 (Aug.) 1921. Since the blood-encephalic barrier is apparently abnormally permeable to dextrose when the central nervous system is injured by disease or trauma (Hoff [20]) the tertiary rise in cerebrospinal fluid pressure may occur with especial force, following the administration of hypertonic solutions of dextrose to patients with post-traumatic or inflammatory intracranial hypertension.

sure, which in turn was superseded within an average of three hours by a tertiary increase to levels from 8 to 148 mm. of water above normal. The latter phenomenon is of clinical significance in relation to the late adverse effects sometimes observed in cases of intracranial hypertension treated by the intravenous injection of strongly hypertonic solutions.

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THE STUDENT NURSE AND TUBERCULOSIS

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Tuberculosis among nurses has long been a serious problem, although it has not been generally recognized in this country. As the morbidity and mortality from tuberculosis in the general population have decreased, the incidence of disease among nurses has become more conspicuous and the magnitude of the problem more obvious. The problem is of universal interest among physicians, since some of them send their daughters to schools of nursing, many of them teach in such schools, and nearly all of them recommend nurses to their private patients.

A small group of physicians from various parts of the world has brought to light the fact that in some hospitals outrageously high percentages of students of nursing became contaminated with tubercle bacilli. It is almost unbelievable that, with so much available knowledge of technics which are effective in preventing the spread of disease, a hundred per cent of the girls who entered the school of nursing of the Ulleval Hospital in Oslo and the Ancker Hospital in St. Paul without infection from tubercle bacilli should become so infected before graduation. In view of this, it seems logical to conclude that many who were already infected on admission to the schools probably were reinfected before graduation.

In an attempt to determine how serious was the offense being committed by various types of nursing schools, we tested with tuberculin the junior and senior students in two schools of nursing in 1929. The results are seen in chart 1. School 1 has a tuberculosis service of approximately thirty beds, where the students at that time gave intimate care to patients with no protection of any avail. School 3 has no tuberculosis service as such but admits tuberculous patients. In school 3 it is possible for girls to complete their course without being assigned to a tuberculous patient. Obviously, the more exposure the more contamination with tubercle bacilli, as seen in chart 1.

Although the contamination in school 3 was a good deal less than in school 1, it was still too high, since we knew that among the girls entering a university in the same city the incidence of positive tuberculin reactors was only from 30 to 35 per cent. In order to prove definitely whether most of the contamination occurred during the course of training, we subsequently observed the nurses of two classes with reference to tuberculin reactions from the time they entered until they graduated. To schools 1 and 3 we added school 2, which admits tuberculous patients but does not have a tuberculosis service and a school of education.

In chart 2, one sees that slightly less than 40 per cent of the probationers who entered school 1 (with a tuberculosis service) in 1929 reacted positively to the test, but in the senior year all had become positive to the tuberculin test. In school 2, less than 25 per cent of the probationers reacted positively, while in this same class only slightly more than 25 per cent were positive in the senior year. In school 3, slightly more than 25 per cent of the probationers were positive but when the senior year was reached slightly more than 45 per cent of the class was positive. In chart 2, the percentages of positive reactors among the probationers and again in the senior years of the three schools of the class entering in 1930 are recorded. In chart 2 one also sees the percentage of positive reactors among the freshmen of the School of Education in the University of Minnesota in 1929. By the time this class had reached the senior year the positive reactions had increased only 4 per cent. One must bear in mind that these students spend one more year in school than those of the schools of nursing. From this figure it is obvious that school 1 with a tuberculosis service is transmitting tubercle bacilli to large numbers of its student nurses, whereas schools 2 and 3 are transmitting bacilli to some of their students but to a much smaller number than school 1. In fact, in the class entering school 2 in 1929 there is approximately the same increase in positive reactors by the time they had reached the senior year as in the school of education. The detailed results of this study will be reported later.

The contamination of girls who entered free from tuberculous infection was determined by the tuberculin reaction. A positive reaction indicates the presence of at least one focus of tuberculosis somewhere in the body which has rendered the tissues allergic. Certainly one would not look on a focus of living and virulent

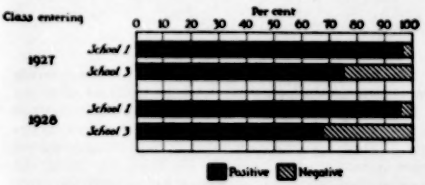

Chart 1.—Tuberculin reaction in student nurses. School 1 with tuberculosis service; school 3 without service.

tubercle bacilli, even when encapsulated, as an asset to the body, any more than one would look on allergy as an asset. Therefore, the hospitals that have infected for the first time or reinfected their students have committed a serious offense against them. A good many of these girls will suffer from clinical tuberculosis as the decades pass, and some of them will die from that disease. In fact, more than 11 per cent of the students entering school 1 negative to tuberculin in 1929 are already suffering from clinical disease. From this, one must not gain the impression that those who enter schools of nursing already positive to the tuberculin test are by any means safe. For example, of one class of six students who entered school 2 in 1932, only one reacted positively on admission. Roentgenograms of this girl's chest were clear. However, by the end of the first year she had pulmonary tuberculosis with cavity formation.

We have had an opportunity to study rather carefully the sequence of tuberculosis events in the bodies of students of nursing and medicine who reacted negatively to the test on entrance to school but who became positive before graduation. Not one became positive to this test because of overwork, bad housing conditions, improper food and the like. There is always a definite exposure as the first event.

Following exposure there is usually a period of approximately three weeks during which there is no test or phase of examination to determine that the body has become contaminated. After about three weeks, the second event is the presence of sensitiveness of the tissues to tuberculoprotein, as demonstrated by positive reaction to the tuberculin test.

From this it is known that at least one focus of tuberculosis is present. In many cases it is never possible to locate the focus by any phase of examination during life, but in a small percentage, after a period of approximately from three to five months, following the development of the positive tuberculin reaction, the focus has become sufficiently large to cast a shadow on the x-ray film.

There may be no other event; in fact, in 80 or 90 per cent of contaminated individuals no other clinical changes are ever observed. However, this is only an estimate, since no one has yet traced a large group of infected individuals from the early adult period through the span of life. Nevertheless, it would seem to be a very conservative estimate based on brief periods of time during which such cases have been followed. When other events do occur they are due to the reinfection type of tuberculosis, which may be from endogenous or exogenous sources. The first clinical event may be miliary tuberculosis or tuberculous meningitis; again it may be pleurisy with effusion, pulmonary disease, tuberculosis of the bones and joints and the like, or a combination of these.

It is disappointing to see that some of the hospitals, which should be true health centers and which should be putting into practice the very best that is known concerning the prevention of disease, are in reality hotbeds for the propagation and dissemination of tubercle bacilli to student nurses.

When one calls attention to the high incidence of positive tuberculin reactors among seniors or recent graduates of schools of nursing and the low incidence among entering students to many of these schools, the question is often asked as to whether these positive reactions have not been brought about through the ingestion of dead bacilli. Another question rather recently asked is whether this is not a manifestation of a general allergic phenomenon that has no particular significance. One should not be misled nor treat a serious problem lightly, for it is known that tubercle formation is present or is taking place when a human body reacts positively to the tuberculin test.

To allow a human body to become contaminated with tubercle bacilli is to set a potential stage for every scene of destruction of which the tubercle bacillus is capable. Many other pathogenic micro-organisms that contaminate the human body are soon destroyed by the protective mechanism, but not so with the tubercle bacillus. When bacilli first enter the body some of them become encapsulated, where they live year after year, ever retaining their virulence and ever ready to destroy, once they escape from their capsule. Moreover, as they pass through the stage of primary encapsulation they sensitize the body tissues so that other bacilli that may come into the body subsequently are not so easily encapsulated and thus often cause much destruction of tissues and organs.

Thus, he who ponders long and carefully over this subject will not congratulate a parent whose infant has recently become contaminated with tubercle bacilli but is not ill. Nor will he congratulate students of nursing and medicine who appear well but who have recently become contaminated with tubercle bacilli, on the ground that they have received the proper dose to protect them.

If any physicians or any nurses who graduated five or ten years ago are not convinced of the great destruction of tuberculosis among the members of their professions, let them attempt to get in touch with their first-year classmates; most of them will be convinced

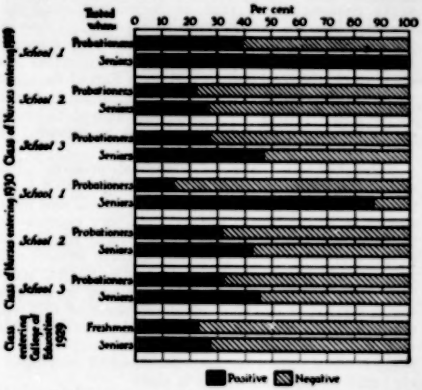

Chart 2.—Tuberculin reaction in student nurses and in college of education students. School 1 with tuberculosis service; schools 2 and 3 without tuberculosis service.

of the seriousness of the problem by finding that a surprisingly high percentage have been ill or have died from tuberculosis. In this country a good many physicians and nurses are engaged in sanatorium work and a good many in other phases of tuberculosis and chest disease activities in private practice. In conversing with such physicians and nurses one is amazed at the large number who have had clinical manifestations of tuberculosis and of this group the number in whom such manifestations developed either in school or soon after graduation.

The medical profession has a great responsibility in changing the situation. If it does not act, the courts will solve the problem. Already tuberculosis contracted in line of duty in a hospital has become a compensable disease. The Industrial Commission of the State of Wisconsin has drawn awards in favor of professional workers in whom tuberculosis developed while they were working with tuberculous patients.

Medical men know how to solve this problem and should not allow discredit to come to the profession and hospitals through intervention of the courts. Moreover, the future of the school of nursing is in jeopardy whenever parents become sufficiently informed as to the contamination that threatens their daughters when they enter schools of nursing. Intelligent and informed parents, who for fifteen or twenty years have given meticulous care to the rearing of a daughter, whose

success and welfare have become the pride of their lives, are not likely to allow her to enter a school of nursing without reasonable assurance that every possible effort will be put forth to keep her body free from contamination with tubercle bacilli and every other communicable disease.

Every hospital has the problem of patients with tuberculosis being admitted for some other condition, such as one requiring emergency surgery. Unless a special examination is made, the patient remains in the hospital until he has recovered from the urgent condition without the staff of physicians and nurses knowing of the presence of tuberculosis. This problem is very easily and cheaply solved by making an x-ray film of the chest of every patient admitted to the hospital. Most of these institutions already have their x-ray equipment and staff of technicians employed. Usually they are not working to capacity. Films of the chest of new patients would not tax their capacity. With paper films, which are entirely satisfactory for chest work, the total cost of making a film of the chest should not exceed 40 cents. When a patient is found to have tuberculosis, he should be admitted as previously, but adequate protection should be provided all who come in contact with him.

Some hospitals have an additional problem of a special tuberculosis service or an affiliation with a sanatorium for the tuberculous. We do not think that these should be discontinued, for they are very essential in the tuberculosis program and in the proper training of nurses and physicians. However, in these services and in the sanatoriums where students are taught, strict contagious technic, such as that employed in a diphtheria service, is essential. Nothing short of this will solve the problem, since it has been demonstrated that with modified contagious technic approximately as many student nurses become contaminated with tubercle bacilli as when no technic is used.

It is generally believed that 100 years ago nearly all young adults had been contaminated with tubercle bacilli. At that time the mortality in this country was approximately 450 per year for 100,000 population. It would seem logical to conclude, therefore, that if 100 per cent of the student nurses were contaminated there would be among them a mortality similar to that of the general population of 100 years ago. Thus, while tuberculosis in the general population has very materially decreased, in the nursing profession the stage is constantly being set for the high mortality of 100 years ago.

Not long ago there was prevalent a fatalistic view which often led to the statement that nurses or physicians could not remain free from contamination with tubercle bacilli because they came in contact with tuberculous patients so frequently. Conditions have changed so much that this view is no longer justified. Marked reduction in clinical cases of tuberculosis, together with the realization of its communicability, as well as actual observation, has shown that many students may go through nursing schools without becoming contaminated. If they are properly trained with regard to tuberculosis, many of them should be able to go through life without contamination.

If conditions are considered as they existed fifteen and twenty years ago, when most of the present students of nursing were infants or small children, and contrasted with present conditions, it will be readily seen that the infant of today has a much better chance of growing to adult life without contamination than infants of that time. Therefore, it would be expected that the incidence of positive tuberculin reactors among probationers in schools of nursing would continue to decrease until the positive reactor on entrance to a school of nursing would be the exception. Already whole classes of probationers have been tested without a positive reactor being found.

Where there is no infection with tubercle bacilli, there are no tuberculous potentialities and thus no tuberculosis problem. In the schools that we have observed, there is already a tuberculosis problem among the probationers when they enter, since from approximately 15 to 40 per cent are already infected. The problem is to keep them under close observation for the development of clinical disease and treat it as early as it can be located. Unfortunately, some schools materially increase their problem by allowing the uninfected students to become contaminated. For example, among the probationers entering school 1 (chart 2) in 1930, slightly less than 15 per cent had been infected. Here the problem was small; but before the class graduated more than 85 per cent had become contaminated and the problem had been more than quadrupled. Thus, the problem exists. It is serious and can be solved only through the efforts of the medical profession and closely allied workers. Following a long period of observation and with much experience the National Tuberculosis Association has for several years in its slogans and elsewhere emphasized the importance of preventing infection with tubercle bacilli. The tumbling down of the death rate and the markedly reduced morbidity in the general population have become very noticeable. As physicians, we can do no better than to apply the same methods to schools of nursing.

COSMETICS — PAST AND PRESENT

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Cosmetics and vanity are twins and can be traced by the most ancient historical documents to the earliest records of which burials have been found; from the Egyptian tombs there is evidence that the ancients used eye and face paints, oils, solid fats and perfumes.

The two most common eye paints were malachite (a green ore of copper) and galena (a dark gray ore of lead), the latter ultimately replacing the former as the principal eye paint of the country. These substances were placed in graves in small linen or leather bags in the crude form. The prepared form, called kohl, has been found in shells, in segments of hollow reeds, wrapped in leaves of plants, and in small vases.[1] Kohl was found either as a paste (now dried) or as a powder, and analyses by Barthoux[2] and Lucas[3] showed that the material in 64 per cent of the specimens was galena, while the rest included carbonate of lead, black oxide of copper, brown ocher, magnetic oxide of iron, oxide of manganese, malachite and chrysocolla (a greenish blue ore of copper); fifty-eight specimens examined showed only a trace of antimony in three, while a fourth consisted of an antimony compound. Lucas considers it wrong to say that ancient Egyptian kohl always consisted of or contained antimony or an

1. Lucas, A.: Cosmetics, Perfumes and Incense in Ancient Egypt, Egyptian Archaeology, May 1930, p. 41.
2. Barthoux, J.: Les fards, pommades et couleurs dans l'antiquité, Congress intnat. de geog. Cairo 4: 251-256, 1926.
3. Lucas, A.: Ancient Egyptian Materials, pp. 59, 104, 146-147.

antimony compound; that it is misleading to term it "stibium," an early Latin name. This mistake probably arose from the words "stimmi" and "stibi," used by Pliny,[4] to designate an antimony compound employed by the Romans in eye cosmetics and eye medicines. It is doubtful that any of these substances contained aromatic essences, for the impregnation of these substances would have required a knowledge of distillation, and it is believed that this process was not discovered until the fourth century B. C. when mentioned by Aristotle.[5]

In addition to painting around their eyes, the ancient Egyptian women probably colored their cheeks, for certain red pigments have been found in graves associated with pallettes and on stones on which it was ground for use; this pigment was red ocher, occurring naturally as red oxide of iron, and is generally termed "haematite." Egypt has a hot, dry climate, so that the use of oils and fats by the poor and the rich has always been popular—the most popular being castor oil, which grows wild in this country.

The leaves of henna, an Egyptian shrub, were used in ancient Egypt in the form of a paste to color the hands, feet, nails and hair. Elliot Smith[6] described the hair of the mummy Honttimihou (eighteenth dynasty) as being dyed a brilliant reddish, which, he suggests, was done with henna. Various other authors mention the use of henna on the fingernails; others suggest the possibility that these stains on the nails were caused by embalming material.

There is evidence that certain plant perfumes such as resins and gum resins were known by the ancient Egyptians. These plant perfumes were made either by laying the petals of the flowers in solid fat or by soaking them in oil, and when these substances were thoroughly impregnated the petals were removed. Among the early Egyptian perfumes, frankincense should be mentioned, and Breasted[7] states that this can be traced as early as the sixth dynasty. Frankincense is thought to be the white incense mentioned in the papyrus Harris (twentieth dynasty); Myrrh, a fragrant gum resin is mentioned and storax (styrax) a balsam belonging to the natural order Hamamelidace was also known.

The Egyptian baths are a matter of history and these were later copied by the Greeks and subsequently became elaborate in the days of the Romans, when beauty culture reached new heights; then the tall, slim type of young woman was favored. Dieting and binding of the breasts are described by Catullus (Carm. LXXXVI); those with too flat a figure used padding.

Superfluous hair in those days was considered unsightly; all well groomed girls were expected to have smooth legs, and they plucked the hair from the face, armpits and other areas of the body. Evidently the depilatories of those days were not any more successful than those of today, for Pliny the Elder states: "In using every psilothrum (a depilatory ointment) the hairs must be first plucked out." Psilothra mentioned included the blood cells and liver of sea fish, with leeches and lice occasionally added. Pumice stones were also used for removal of hair; shaving was first brought to Italy in 300 B. C.

Special care was given to the teeth, the ashes of various animal substances being used as dentifrices. False teeth, made of bone or ivory, were held in place with gold wires. Martial in a satire speaks:

> Hair you bought, and teeth and rouge and wax to make you pale,
> You would have bought an eye as well—there wasn't one for sale.

Skin tighteners and wrinkle removers were eagerly sought in those days. Ovid mentions various preparations, including the use of honey and barley to soften the skin, and here one first hears of face packs such as egg washes and halcyoneum, which Pliny states consists of the thickening filth of sea foam or some slime or woolly substance of the sea which was used for wrinkles. Poppaea, the wife of the emperor Nero, is said to have used a poultice made of a substance like bread dough soaked in ass's milk, which she spread over her face at night and washed off with milk in the morning, followed by a facial massage for which also this milk was used; she took a herd of asses with her wherever she traveled and used their milk for tub baths.[8]

Although hydrous wool fat, an ingredient of most beauty creams, was not brought forth until the latter part of the twentieth century, both the Greek and the Latin writers speak of the famous oesypum, a sort of hydrous wool fat salve made of the grease from sheep's wool, which had a strong disagreeable odor and was used as a softening and cleansing salve.

Toward the end of the second century A. D., Galen, a celebrated Roman physician, wrote a four volume work summarizing the literature of beauty culture to date. Many complicated facial treatments were described by Ovid in his work "Medicamina Faciei Femineae."

Various types of treatments for freckles were used; the use of rouge was widespread; even eyebrows were painted in those days. Xenophon (Oeconomicus X, 2, 5, 7) relates the still popular scene of a young husband telling his wife that instead of using cosmetics she would be much better if she kept her complexion clear and red by exercise from the usual household activities, such as weaving, kneading bread and shaking coverlets. Martial, the famous satirist of the day, in an epigram (IX, 37, 4f) states:

> The face you show the world is laid at night
> Not in your bed, but in your hundred rouge-pots.

Rouge was made mostly from vegetable dyes, among them was fucus, a product of a root of a plant; red lead also was used. The use of chalk and white lead (cerussa) intended to whiten the face in a manner comparable to the practice of enameling faces, which prevailed fifty years ago, was not neglected by Martial (1, 72, 5f) in his lines:

> Blackberry hued Lycoris feels delight
> Knowing Cerussa makes a dark face white.[8]

Beauty plasters of soft leather were worn not only by women but by men; although sometimes they were used to set off the complexion, they also had their value in concealing defects or marks of the branding iron on the foreheads of rich freed men.

There are numerous references to the dyeing of hair; bleaching also was very popular. Ovid mentions the dryness, brittleness and poisoning from hair dyes. Tertullian also speaks of the danger in the use of hair dyes; however, they were more advanced in their

4. Bostock, J., and Riley, H. T.: Natural History (trans.) Bohn's Library, xxxiii, pp. 33, 34.
5. Meteorologica, pp. 11, 2.
6. Smith, E. G.: The Royal Mummies, Cat. gén. du Musée du Caire, 19.
7. Breasted, J. H.: Ancient Records of Egypt 1:620, n. d.
8. Wilner, O. L.: Roman Beauty Cultures, Classical J. 27:26 (Oct.) 1931.

prophylaxis, for Marcellus insists that after the use of his concoction the hair be bound in cloth until dry. The face was always greased before the application of a dye to prevent its being stained by some stray dripping of the dye, and the mouth was kept full of oil until the dye was dry to prevent the teeth from turning black. Vegetable, animal and mineral substances were included in the list of coloring materials. Of the latter, lead was the most popular and was acquired by allowing the most nauseating mixtures to decompose in lead vessels. Another very important dye substance was made from walnuts and acorns, which were gathered when very green and their juice applied with a comb. Wigs were very popular and were sold in the open market. The use of rouge and hair dye is a favorite subject of mythology and among the Romans it was unquestionably very popular; but it was not universal, the principal users being the courtesans and the sporting class.

The various authors from 500 B. C. to the present day make frequent references to the use of cosmetics.

In 1909 there were 429 establishments manufacturing cosmetics, doing a business of $14,211,969. By 1931 the number of manufacturing establishments had increased to 657 doing a business of $156,375,744, and the last report was that the wholesale value of the products sold amounted to over $250,000,000. At the present time there are 41,000 beauty shops and 80,000 barber shops in the United States employing 170,000 women and 250,000 men.[9] However, the latter figure in no way reveals the number employed in this work, because I investigated last year those in Boston alone. In 1932, 3,018 licenses were issued for beauty work, but it is estimated that despite the energies of the health department, half as many again are engaged in this work, having as their place of business a room in their home. Boston has tried to prohibit these residential establishments not only for sanitary but for moral reasons, and now every application is first acted on by the zoning board, which passes on it as to whether the location is in a business zone or whether it is residential; if residential, it is disapproved and the applicant is told not to work in that location.

Although women do and will continue to pay ridiculous prices for cosmetics that are of little or no value, still as a result of the efforts of the American Medical Association there is unquestionably an effort on the part of the manufacturers to prevent the selling of harmful substances, and the various associations of cosmetic manufacturers state that they will admit no one to membership who uses paraphenylene-diamine in their compounds.

With such a tremendous increase in the cosmetic business there has been an alarming increase in the number of local disturbances of the skin, and some systemic results have also been reported. Fortunately, most of them are not severe. Many women try a new powder or cream and it immediately irritates their skin, so they discontinue its use. The physician is consulted only when there is a violent reaction or when the long interval between the time of application of these preparations and the beginning of symptoms makes it impossible for the users to determine the cause of their skin irritation or the loss of previous good health. Every busy dermatologist sees one or more cases a week of some result of cosmetics, but few report these cases. Frequently they are not proved cases; a cosmetic is suspected, the patient is advised, gets well and refuses any testing to prove the case, and one hesitates to report a case without scientific proof. Out of 437 questionnaires for the investigation of injuries from hair dyes, dyed fur and cosmetics, only sixty-two were returned.[10]

Powders rarely contain bacteria, although Kapp[11] made a bacteriologic examination of sixty-seven powders from powder boxes taken from his private patients and found various types of bacteria; these were probably contaminations from the powder puffs used. He thought that the vegetable powders injured the skin through the swelling of the powder granules in the cutaneous fat and moisture and considered rice powder the least harmful. Mineral powders irritate because some of the grains have sharp edges and spicules, especially those containing calcium sulphuricum and terra silicea. The least harmful mineral powders are those containing zinc oxide, precipitated magnesium carbonate, and magnesium silicate. Powders also are of two types—heavy and light. The light contain magnesium compounds and occasionally the heavy contain lead acetate, which has been prohibited in Germany. Numerous face powders contain orris root, which is used as a perfume fixative and may not produce a hypersensitiveness until after a long period of use.

Persons using perfumes containing oil of bergamot on unprotected skin should not expose themselves to the sun, for the combination will produce a disfiguring pigmentation.[12]

With the almost universal use of lipstick, irritation of the lips (cheilitis) is rarely encountered, for the natural dyes such as burnt sienna, cantharium and carmine used in them are fairly safe, although Miller and Taussig reported lipstick dermatitis due to the second.

Soaps containing more than 0.25 per cent of free alkali will irritate certain skins.

Pyrogallol and paraphenylenediamine (also known as ursol) will irritate one in a hundred skins, and even the lay person is aware of the dangers in their use. No operator should use a hair dye on a person who has had a previous dermatitis from dye.

The various sulphites, calcium, barium, sodium, strontium and magnesium, to remove superfluous hair will frequently cause a dermatitis. The dangers of the use of thallium acetate have been known since Sabouraud pointed out its dangers in the latter part of the last century.

McKenna states that the irritating effects of cold creams is intensified by the successive application of vanishing cream and thinks that the fats block the sebaceous and sweat glands and interfere with the perspiration, causing the temperature of the skin to rise and leading to a continued dilatation of the superficial blood capillaries and eventually to an acne rosacea;[13] a good cleansing at night will prevent this.

Freckle creams and bleaches generally contain mercury; they may cause an acute dermatitis or pigmentations such as those reported by Goeckerman,[14] Wedd[15] and Woltman;[16] the latter reported a case of lead

9. Goodman, Herman: Cosmetics and Your Skin, Hygeia **8**: 123-125 (Feb.) 1930.

10. Cole, H. N.: Investigation of Injuries from Hair Dyes, Dyed Furs and Cosmetics, J. A. M. A. **88**: 397-399 (Feb. 5) 1927.

11. Kapp: Cosmetic and Toilet Powders, J. Cutan. Dis. **30**: 443, 1912.

12. Downing, J. G.: Pigmentation from Perfume: "Berlock" Dermatitis, New England J. Med. **207**: 660-662 (Oct. 13) 1932.

13. McKenna, R. M. B.: Cosmetics, Modern Preparations, Chemical Composition, and Pathological Developments Attributable to Them, Brit. M. J. **1**: 899-902 (May 17) 1930.

14. Goeckerman, W. H.: Peculiar Discoloration of the Skin, J. A. M. A. **84**: 506-507 (Feb. 14) 1925.

15. Wedd, A. M.: Skin Discoloration by Metallic Pigments, Clifton M. Bull. **18**, January 1932.

16. Woltman, H. W.: Lead Poisoning from Face Enamel, J. A. M. A. **79**: 1685 (Nov. 11) 1922.

poisoning such as that seen after the continued use of face powders and enamels containing lead acetate.

Men use hair tonics more than women; a man presenting desquamation of the skin on the palm and finger tips accompanied by vesicles should be questioned about a hair tonic. The use of arsenic in hair tonics has undoubtedly caused more cases of arsenic poisoning than those reported. Cole [17] reports a severe dermatitis from a hair tonic containing arsenous oxide, 1.06 grains (0.068 Gm.) to the fluidounce. Cole quotes Newcomb as stating that in sixty-six toilet preparations he found that forty-six were free from wood alcohol. Perhaps with repeal, grain alcohol will not be so valuable.

Silver with its aftermath of that disfiguring condition called argyria should be warned against, and the use of potassium cyanide and oxalic acid as a hair bleach should be a criminal offense.

In all the vast array of literature, occasionally one finds an article defending cosmetics, such as Carleton's [18] experiments with vanishing cream, which she tried on forty subjects. In twenty-four it proved harmless, although three of these subjects had naturally dry skin; in thirteen cases, the cream was beneficial and in only one case did the cream cause dryness. McCafferty and Genovese [19] experimented with cold creams and vanishing creams on a group of twenty-five and stated that there was not one case of dermatitis produced from the use of vanishing or cold cream of a special formula. Cold cream is for the most part innocuous and is prepared from a vegetable or mineral oil such as almond oil, beeswax or liquid petrolatum, to which is added a small amount of borax to aid emulsification. Some manufacturers add spermaceti, which produces a very white cream but which is liable to become rancid and cause irritation; the quality depends on the fineness of the fats. Vanishing cream in reality belies its name, for it does not vanish. It serves as a greaseless, adhesive surface on which powder is spread. The two creams differ in that the vanishing cream is an emulsion of stearic acid in water containing soap, and cold cream is an emulsion of water in oil containing wax.[20] Vanishing cream should never be allowed to remain on the face.

Women at a certain age will dye their hair, and dangerous dyes should be pointed out. Perhaps one of these forbidden dyes is desired: it still can be used if the patient submits to a patch test.[21] This test should be applied on every occasion before the dye is used. While Negresses are trying to remove the curl and kinks from their hair by the use of gluey substances such as acacia and quince seed, at the same time white women are striving for this effect by the use of permanent waves. The action of permanent waving depend on the softening action of an alkali on the cuticle of the hair. Permanent waves are made by winding the strands of hair on a rod, either spiral or croquinale, which in turn is wrapped in cloths saturated with an alkali, frequently ammonium hydroxide. Over these spindles are placed steam cylinders that are electrically wired and attached to a large stand. The hair should be tested first to determine the time needed to produce a wave; the scalp is protected by noninflammable shields placed close to the scalp at the base of the rod. Occasionally, one rod gets too hot or the shield is defective and small burns result. The results seen at the office vary from a superficial blistering to the involvement of the entire epithelial layer, with scarring and permanent alopecia as shown in the accompanying illustration. They are of a characteristic circular appearance about 8 mm. in size.

Rouge is composed mostly of zinc oxide to which chalk and one of the natural dyes has been added. Carmine is used in lipsticks, which are composed of wax, lard and oil of theobroma (cacao butter) in varying proportions.

Henna is probably the safest dye to use on the hair. Wrinkle removers are another group highly advertised and much sought after; they are generally of three types—astringents, fillers and cauterizing agents. As a rule the astringents are seldom harmful except those containing phenol (carbolic acid); as to fillers, many are the tragedies of disfigurement that have come from the injection of paraffin for the elimination of wrinkles and depressions.[22]

Typical alopecia and scarring from a burn following a permanent wave. (Hair surrounding burn has been clipped by physician.)

Eyebrow pencils rival lipsticks in their popularity; they are, as a rule, harmless and are composed of finely ground carbon made into a pencil of wax or paraffin.

Liquid nail polishes generally consist of acetone containing tincture of benzoin or a solution of cellulose acetate and may be of value, by their antiseptic qualities, in preventing infections that might have resulted from the none too sterile operating tools of the manicurist.

With proper labeling of the various cosmetics and with the cosmetic expert restricting his activities to hygiene, the proper cleansing of the hair, scalp and face, and if requested the application of facial adornments and using pure materials, there will be no loss of business; in fact, there will be an increase, for many women now who fear the use of cosmetics but envy their attractive neighbor may join the ranks, although the American women are rapidly ceasing to look like barbarians and agree that the best face is the natural face.

520 Commonwealth Avenue.

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18. Carleton, Alice: The Uses and Dangers of Cosmetics, Brit. M. J. **1**: 999-1001 (June 10) 1933.

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TELANGIECTASIA ASSOCIATED WITH VARICOSE VEINS

TREATMENT BY A MICRO-INJECTION TECHNIC

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Telangiectases are dilatations of capillaries. They occur frequently in conjunction with varicose veins, being present to some degree in most cases. To date, there has been no satisfactory method of treatment for this unsightly complication. The new method, intravascular injection by a microtechnic, which furnishes the basis of this report, has given satisfactory results.

Varicotelangiectasia must be differentiated from the generalized capillary dilatation occurring in other conditions. The telangiectasia accompanying varicose veins is usually absent before the veins themselves become dilated. Furthermore, it is limited to the lower extremities and the dilated capillaries never project above the surface of the skin. According to Madden's [1] classification, it belongs to the group of secondary telangiectasia.

The shapes assumed by the dilated vessels vary from a straight line to the complex spider web pattern that is often seen. Their color may be pinkish, bright red or dark blue. They are much more frequent in women than in men and are seen in greatest numbers between the ages of 20 and 40 years. Thrombi are seldom encountered in these capillary loops.

The numerous former methods of therapy employed in treatment of this lesion were either ineffective or poor from a cosmetic point of view. They included the use of the cautery, surgical galvanism, multiple linear scarification, radium therapy, radiotherapy, electrodesiccation, and carbon dioxide snow.[2] All these measures give poor cosmetic results, since they involve the production of more or less scar tissue. Furthermore, the dilated capillaries are often present in straight lines many inches long. The use of a skin destroying agent in these cases would cause widespread scar formation. Consequently, there has been a recent attempt on the part of some investigators to eradicate the lesion by the use of subcutaneous perivascular injections of irritating substances. I investigated this perivascular sclerosing method hoping that by its aid I could get improved cosmetic results in my varicose vein cases.

At the outset, it was conceded that if the subcutaneous injection of a harmless sclerosing solution could remove dilated capillaries, this procedure would offer the best method of treatment. Therefore it was decided to make a thorough testing of this technic before other types of therapy were considered. The theory behind this treatment is that the subcutaneous injection of sclerosing fluids will cause the formation of fibrous tissue. The subsequent contraction of this newly formed fibrous tissue should compress the dilated capillaries and thereby remove them completely. The accompanying table illustrates the study that was made in order to determine the effectiveness of this type of treatment.

Before the table is analyzed, it is necessary to explain the technic involved. In most cases the solution under investigation was injected subcutaneously into the area of capillary enlargement. The fluid was introduced so as to permeate the region thoroughly, the needle point first being placed below and then shifted to the sides of the capillary groups. Whenever possible, it was also inserted into the spaces between the individual loops. The average amount of sclerosing solution injected was 2 cc., although the amount varied with the agent used.

A study of the table shows that seventeen different solutions were employed. The first solution used, dextrose and sodium chloride, was given up after one trial on account of the immediate and severe necrosis that resulted in the injected area. Invertose solution was used in four different concentrations, but only with the highest concentration was any degree of fibrosis noted. This was scant in amount and could be felt in the subcutaneous tissue beneath the dilated vessels. There was no evident effect on the telangiectasia.

Neoarsphenamine was then tried on account of its irritating qualities. I vividly remember cases of syphilis in which perivascular injections were accidentally made during intravenous administration of this preparation. In each instance, a pronounced lumpy fibrosis resulted which lasted for weeks. It was decided to make use of the sclerosive quality of neoarsphenamine in these experiments. As shown by the table, varying degrees of fibrosis were obtained with neoarsphenamine, especially in the more concentrated solutions in which actual lumps were formed. However, in spite of the marked induration and fibrotic contraction that resulted, no change occurred in the telangiectatic capillaries.

With the other solutions used, similar results were evident. Occasionally, fibrosis was produced, but no improvement in the capillary blemishes resulted. Furthermore, in no case was capillary thrombosis seen following the use of any of the seventeen solutions. The subcutaneous method was, therefore, a complete failure.

It was then decided to use intracutaneous injections in order to get the sclerosing action directly in the field of capillary enlargement. It was felt that perhaps the usual subcutaneous injection placed the irritating fluid

Solutions Under Investigation

Solution Used	Number of Times	Amount	Result
1. Dextrose (25%) and sodium chloride (15%) āā	1	2 cc.	Slough 30 mm.
2. Invertose 75%.....	22	0.5 to 4 cc.	Occasional slough fibrosis
3. Invertose 60%.....	70	1 to 5 cc.	Usually no fibrosis
4. Invertose 37%.....	10	1 to 2 cc.	No result
5. Invertose 30%.....	4	1 to 2 cc.	No result
6. Neoarsphenamine* 1:20.....	2	2 cc.	Slight fibrosis
7. Neoarsphenamine* 1:10.....	36	1 to 2 cc.	Fair amount of lumpy fibrosis
8. Neoarsphenamine* 1:5.....	20	1 to 2 cc.	Definite fibrotic lump
9. Neoarsphenamine* 1:4.....	10	1 to 2 cc.	Large lump
10. Neoarsphenamine* 1:10 and invertose 60%	4	2 cc.	Slight fibrosis
11. Neoarsphenamine* 1:4 and invertose 75%	2	2 cc.	Slight fibrosis
12. Sodium morrhuate 1:3.....	2	0.5 cc.	Slight fibrosis
13. Sodium morrhuate (whole) 5%	4	0.5 to 1 cc.	Fair fibrosis
14. Sodium morrhuate and water āā	18	0.5 to 1.5 cc.	Slight fibrosis
15. Sodium morrhuate and invertose 60%	4	2 cc.	Slight fibrosis
16. Whole blood.....	1	1 cc.	No result except ecchymosis
17. Fibrolysin.....	2	4 minims	Scanty fibrosis
Total.....	212 injections		

* Stock solution of neoarsphenamine, 0.45 Gm. in 5 cc. of water.

From the Varicose Vein Clinic of the Stuyvesant Polyclinic, New York.

1. Madden, J. F.: Generalized Angiomatosis (Telangiectasia), J. A. M. A. **102**: 442 (Feb. 10) 1934.
2. Kovács, Richard: Electrotherapy and the Elements of Light Therapy, Philadelphia, Lea & Febiger, 1932.

too far below the papillary capillaries to exert any direct influence on them. A series of intradermal wheals was raised, 60 per cent invertose solution being used. No vascular obliteration occurred.

Failing to influence the telangiectasia with an ordinary wheal, I decided to try a high pressure intracutaneous injection. This was done in the following

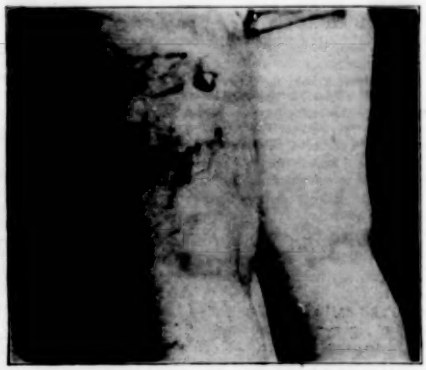

Fig. 1.—Telangiectasia before treatment.

manner: The injection was not stopped when a wheal was formed but was continued past this point. The forceful introduction of fluid placed the artificially created intercellular space under high pressure. This procedure caused the appearance of an interesting phenomenon. The wheal did not become appreciably larger. Instead, the injected fluid was seen to enter the dilated capillaries nearby, displacing the blood column in them. Evidently, an intravascular introduction of fluid had taken place in spite of the fact that the needle point was in the intradermal wheal.

This curious result has no clear explanation. The intimate connection between the lymph spaces of the skin and the capillaries is well known.[3] The density of the perivascular tissues in this region is relatively great on account of the abundance of collagenous and elastic fibers. Furthermore, it has been shown that injury to the capillary wall makes it much more permeable.[4] All these factors probably operated to cause the phenomenon, but the exact route of the injected liquid from the wheal into the capillary circulation is not known.

With this technic, a definite result on the capillaries was evident for the first time. In a few cases, thrombosis was secured and caused the subsequent disintegration of the affected tiny vessels. However, in about 50 per cent of the cases, necrosis took place at the site of wheal formation, even with the use of invertose solution in dilute form. It was therefore necessary to discontinue this method of treatment.

At this stage of the investigation, it was evident that in order to remove dilated capillaries it was necessary to bring sclerosing fluid in direct contact with endothelium. Consequently, the tiny vessels would have to be injected intravascularly. Ordinary methods of injection would not answer this purpose. It was necessary to develop a new and finer technic, which will now be described.

3. Sutton, R. L.: Diseases of the Skin, ed. 7, St. Louis, C. V. Mosby Company, 1928.
4. Krogh, A.: The Anatomy and Physiology of Capillaries, revised edition, New Haven, Conn., Yale University Press, 1929.

MICRO-INJECTION TECHNIC

For this technic the necessary equipment includes: (*a*) proper illumination, (*b*) extremely fine metal needles, and (*c*) a powerful binocular loupe.

The light is very important. It must be strong and so arranged as to avoid shadows. A shadow-free operating room lamp is ideal. If this cannot be procured, a good headlamp will also answer the purpose. Proper magnification, as afforded by a good binocular loupe, is indispensable, since the affected blood vessels are too small to be injected by the naked eye. The needles should be the thinnest and finest attainable.

The patient stands on a table so as to distend the capillary loops. No tourniquets are necessary. After the injection is completed, an ordinary gauze pad, held down by adhesive plaster, should be applied.

The blood vessels dealt with stand out clearly when magnified by the binocular loupe. They are either true capillaries, capillary venules, or small venules. No effort was made to distinguish between the various types, since they are difficult to differentiate even under the microscope. It has been stated before that the tissue surrounding these dilated tubules is of greater density than that of the subcutaneous tissue beneath. This fact is of importance because it helps materially in the actual injection. The papillary capillaries are surrounded by dense structures. Above and to the sides lies the highly cellular epidermis with its papillary projections. Below is a dense structure composed of interlacing fibrous and elastic tissue fibers. The tiny vessels are held firmly and do not roll away from the needle point. They are transfixed with comparative ease if the proper technic is used.

The injection should be started in healthy tissue. The fine needle point is carried toward the offending capillary, being kept near the skin surface so that it will engage the vessel directly under the epidermis. With experience, one should be able, by a gentle but firm push, to catch the needle point in the capillary wall and enter its lumen. This procedure, although delicate, is not difficult and very often capillaries of smaller diameter than the needle itself can be entered successfully, owing to the elasticity of the vessel wall.

Fig. 2.—Telangiectasia after treatment by micro-injection method.

When the needle has been successfully engaged in the capillary, the fluid is injected rapidly, causing the vessels to swell visibly. The sclerosing solution can usually be seen as it displaces the blood in the telangiectatic tubules. Care must be observed to avoid a perivascular injection. This will be evidenced by the formation of a wheal and it is a signal to stop the

injection in order to avoid a slough. Quinine should not be used, because it is often followed by pigmentation, which may be more unsightly than the telangiectasis itself. Sodium morrhuate, 5 per cent, may be used, but caution must be observed, since it is occasionally capable of slough production, as described by me in 1933.[5] Any of the other mild sclerosing agents are also satisfactory for this technic.

In some cases, a successful treatment is followed by an almost magical disappearance of the capillary groups. This is especially true of spider web formations or similarly connected clusters of capillaries. In other cases, thromboses will occur and be evidenced by firm dark stripes corresponding to the blood vessels injected. These are easily seen through the thin layer of epidermis covering the thrombotic streaks and are slowly but definitely absorbed in a few weeks. The final reaction in every case is a definite, clean, scarless removal of the offending capillaries.

Fig. 3.—Association of telangiectasia with varicose veins.

The method described is safe and efficient. With proper technic, one can always secure a positive removal of the offending capillary dilatations. It is being extended to other flat angiomas in the expectation that equally good results will be obtained in these hitherto difficult cases.

CONCLUSIONS

1. Telangiectases or dilated capillaries are often present on the lower limbs of patients exhibiting varicose veins.

2. Previous methods of treatment have been ineffective or have given poor cosmetic results because of scar formation.

3. The subcutaneous perivascular injection of sclerosing fluids is useless in varicotelangiectasia.

4. The micromethod of intravascular injection presented successfully removes dilated capillaries.

5. The method is safe, does not cause scar formation and gives good cosmetic results.

510 Madison Avenue.

5. Biegeleisen, Hyman: The Evaluation of Sodium Morrhuate Therapy in Varicose Veins, Surg., Gynec. & Obst. **72**: 696-700 (Nov.) 1933.

ACUTE GONOCOCCIC PERITONITIS OF THE RIGHT UPPER QUADRANT IN WOMEN

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In 1930 Curtis,[1] in a paper on a cause of adhesions in the right upper quadrant, drew the following conclusions:

1. Extensive adhesions between the anterior surface of the liver and the anterior abdominal wall, characteristically of the separate "violin-string" type, are not infrequently encountered in patients operated on for relief of pelvic distress incident to gonorrheal disease of the tubes.

2. It would appear that gonorrheal disease is not so invariably limited to the pelvis as has heretofore been assumed.

3. Female patients with symptoms suggestive of gallbladder disease or pleurisy may be suffering from liver-abdominal wall adhesions complicating a pelvic gonorrheal infection.

The following three cases, encountered within the past six months in the practice of an internist, would seem to represent instances of the hitherto undescribed acute and early manifestations of gonococcic peritonitis of the right upper quadrant. They would seem to complete the picture of the condition previously described in the end stage by Curtis.

REPORT OF CASES

CASE 1.—Miss X., aged 31, seen in my office, Nov. 3, 1933, complained of severe pain all around the right lower rib margin. It was most intense in front over the gallbladder area. Examination showed marked right upper quadrant rigidity and exquisite tenderness. There were no pulmonary or pleural signs or symptoms. A tentative diagnosis of acute cholecystic disease was made. This diagnosis was partially confirmed the next day by a cholecystographic report of "nonfunctioning gallbladder." The patient was hospitalized and Dr. I. S. Ravdin, in consultation, agreed with the diagnosis. After the patient had been in bed ten days, the pain, tenderness and rigidity having partly subsided, Dr. Ravdin operated. To our astonishment we found a normal gallbladder. An unusual, localized fairly dry peritonitis involved the anterior surface and edge of the liver and the adjacent peritoneal surface of the diaphragm and the anterior abdominal wall. The peritoneum in these areas was injected and had the appearance of salt sprinkled on a moist surface. A small section of the liver was taken for biopsy, a peritoneal culture was made, a drainage tube was inserted in the subhepatic fossa, and the operation was terminated after palpation of the appendix, pelvic organs, stomach and duodenum. No abnormal changes were noted in these organs.

After cogitating overnight, we decided that what we had seen was probably the acute stage of the process described in its chronic form by Curtis. Accordingly, smears were made from the drainage tract and we were promptly rewarded with the finding of a beautiful spread of typical gram-negative intracellular biscuit-shaped diplococci (fig. 1).

The patient made an uneventful recovery. When we told her the results of our examination she related the following remarkable story: Five years previously she had been desperately ill in another hospital, first with gonorrheal salpingitis and then with gonococcic septicemia. Two separate blood cultures had shown the gonococcus. She was treated by such measures as transfusions and the administration of antiserum. She finally recovered completely, much to the surprise of every one concerned. She had not told us this story prior to operation because she had been assured that all the smears and tests had become "absolutely negative" and she did not think that the old condition could cause her trouble in the future.

1. Curtis, A. H.: A Cause of Adhesions in the Right Upper Quadrant, J. A. M. A. **94**: 1221-1222 (April 19) 1930.

She stated that there had been no possibility of subsequent exposure.

Our own efforts to find the gonococcus in smears from the cervix and urethra after operation were negative. No palpable evidence of pelvic disease could be demonstrated. The blood Wassermann and gonococcus complement fixation tests were negative at the time of her discharge from the hospital. The sedimentation curve showed marked acceleration, even after a week in bed, and at a time when most of the symptoms had become quiescent. The section from the liver showed a partly organized and partly acute "inflammation of the capsule without parenchymal involvement" (fig. 2). A few diplococci were seen but were not definite enough to permit a diagnosis from the tissue itself. We were in no doubt, however, as to their true nature in view of the smears from the peritoneal exudate.

The patient is at present entirely well and has had no trouble except that the first postoperative menstrual epoch was stormy, with fever for a few days, unusual cramps, menorrhagia and slight dysuria. She recalled the fact that similar symptoms had accompanied the period preceding the present illness.

CASE 2.—Mrs. Y., aged 30, was seen February 6 in consultation with Dr. Mackinnon Ellis, to whom I am indebted for the following details: The patient was the mother of two healthy sons, aged 5 and 6 years, and had been divorced three years before. She had been sick for several weeks with symptoms suggestive of "intestinal grip," such as low abdominal pain, distention and fever. The fever ranged from 98 to 101 F., lasting a few days and then subsiding to such a point that she "went out and had a few high-balls" against her doctor's orders. A relapse occurred. The temperature was higher than it had been before and there was generalized abdominal pain, distention, great sensitiveness and some rigidity. These symptoms partially subsided after about a week, when the patient was seized with severe acute pain in the right upper quadrant of the abdomen. Dr. Ellis found localized rigidity and marked tenderness. He suspected an acute cholangeitic complication of the grip. The temperature rose to 103 and fluctuated up and down for a few days, when it began to subside, and the pain, distention and rigidity gradually disappeared. It was at this juncture that I saw the patient. My examination revealed nothing except slight tenderness in the right upper quadrant and suprapubic region and a slightly elevated temperature. Questioning brought out the fact that a week prior to onset of the low abdominal pain and the fever there had occurred well marked leukorrhea and some dysuria, which had lasted for a few days.

Fig. 1.—A typical oil immersion view of a smear from the peritoneal exudate showing a cell packed with gram-negative diplococci.

I told Dr. Ellis the story of the first case reported in this paper, and we agreed that his patient probably had the same syndrome. The patient, on being informed of our diagnosis, showed no trace of "righteous indignation." She seemed anxious, however, to establish the possibility in our minds that the original infection might have occurred "some years ago."

Dr. Ellis made a pelvic examination during the early stages of the pain in the lower part of the abdomen and found nothing abnormal. She was menstruating at the time of my consultation. About five days later Dr. Ellis obtained smears from the cervix, which Dr. W. P. Belk reported as positive for gonococcus. A week later Dr. F. E. Keene found clinical evidence of gonorrhea in his examination of the cervix and stated also that the left ovary was inflamed. He, too, obtained positive smears from the cervix.

Fig. 2.—Section under low power showing hemorrhage and fresh exudate at surface, organized exudate below, and normal liver tissue at the bottom and left.

The patient made an uneventful recovery. The urinalyses, January 4 and 16, were negative. The blood count, February 8, showed: red blood cells, 3,500,000; white blood cells, 8,800, and hemoglobin, 87 per cent. The differential blood count showed: neutrophils, 69 per cent (19 per cent nonfilament); lymphocytes, 25 per cent; monocytes, 3 per cent; eosinophils, 1 per cent, and basophils, 1 per cent. February 8, the gonococcus complement fixation test was negative and the sedimentation curve showed marked acceleration (20 mm. fall in twenty minutes and 25 mm. fall at the end of an hour).

CASE 3.—Miss Z., aged 34, presented a picture almost identical with that of patient 2 except that I had the opportunity of examining her during the latter part of the acute stage of the localization of the pain in the right upper quadrant. Her contribution to this syndrome, beautiful "new snow" creaking frictions audible all along the right upper margin of the anterior abdominal wall, is perhaps of considerable importance. She, too, had had an irregular moderate elevation of temperature for three weeks with prodromal symptoms of leukorrhea and dysuria, followed by low abdominal pain, rigidity and distention prior to the sudden severe localization of symptoms in the right upper quadrant. There was marked acceleration of the sedimentation rate, little or no leukocytosis and a moderate secondary anemia. The complement fixation test was positive. The pelvic examination subsequently revealed no gross abnormalities. After rest in bed for three days, the frictions had disappeared and after one month from the onset she had recovered entirely. One of three cervical smears showed the typical gram-negative intracellular diplococcus. She admitted the probable correctness of the diagnosis but could not assign a likely date of contact.

COMMENT

The first case is the only one in which there is real proof of the presence of acute gonococcic peritonitis.

Even here it must be admitted that the proof is incomplete in that no cultural identification of the gram-negative biscuit-shaped diplococcus was undertaken. There seems to be no reasonable doubt, however, that this was acute gonococcic peritonitis. In the two subsequent cases, in which the diagnoses were made only on the basis of experience from the first case, there is no personal doubt that the same peculiar localized gonococcic peritonitis existed in the right upper quadrant.

From the admittedly incomplete data at hand the clinicopathologic picture is reconstructed in the following manner: At some indefinite time presumably following a previous gonorrheal infection, or possibly a reinfection, there occurs a brief period of leukorrhea, slight transient dysuria, cramps and perhaps a somewhat abnormal menstrual epoch. This train of symptoms suggests that a mild pelvic reactivation has occurred. Vague low abdominal pain, distention and slight irregular fever follow promptly. Within from one to three weeks, sometimes after a brief interval of apparent quiescence, there occurs acute severe pain in the upper part of the abdomen with distention and rigidity, which quickly localizes in the right upper quadrant. The pain in the right upper quadrant, rigidity and febrile relapse last for from a few days to a week and simulate very closely the picture of acute hydrops or acute empyema of the gallbladder. The pain is made worse by coughing, sneezing, laughing or twisting the trunk muscles, and it is not relieved by strapping the lower part of the chest. A quiet deep breath does not cause much pain and the diaphragm moves fairly well. The peristaltic sounds are normal or only slightly diminished. The anterior abdominal wall below the right costal border is rigid and exquisitely sensitive. A crunching to and fro type of friction may be readily heard just over this area of the abdominal wall, at least during the subsiding stage of the acute process. The fever, pain, distention and rigidity subside within from three to six weeks from the first onset of symptoms. After this the "chronic stage" begins, which may be symptomless or characterized by the later manifestations described by Curtis. The prognosis for recovery from the acute stage is uniformly good, and the ultimate outlook as to life itself is apparently equally good. It would seem probable, however, that recurrent gonococcic invasions of the right upper quadrant might occur in certain cases.

During the stage of acute peritonitis in the upper part of the abdomen there is little or no leukocytosis and only a moderate "left shift" in the neutrophil formula. There is, however, a marked acceleration of sedimentation rate. The gonococcus may be obtained from the peritoneum during the (subsiding?) acute stage if one is fooled into operating. The gonococcus may or may not be obtained subsequently from the cervix or the urethra. A reasonable doubt as to the diagnosis must remain if the organism is not demonstrated. Sometimes in these cases there is apparently no gross evidence of residual gonorrhea in the pelvis. The gonococcus complement fixation test is not helpful (negative in two instances and positive in one during convalescence from the acute phase).

It should be emphasized that these cases do not seem to fit the picture of the previously reported [2] instances of virulent generalized acute gonococcic peritonitis, which is said to be very uncommon.

The clinical manifestations of this syndrome would seem to be rather clear cut. It is probably true that internists and general practitioners, who would be the most likely observers of the condition, have overlooked a number of these cases. It is obvious that the differential diagnosis of the condition must include a careful consideration of basal pleurisy, pneumonia, "intestinal grip," "devil's grip," colitis, cholecystitis, perforating peptic ulcer, pyelitis, an early stage of shingles, appendicitis and all forms of peritonitis. On the operating table the appearance of the lesion has a greater resemblance to a mild localized "zuckerkuss" change with little or no fluid than it has to an acute peritonitis. It should not be necessary, except in unusual circumstances, to establish the diagnosis at operation.

SUMMARY

1. In three cases of what is believed to be acute gonococcic peritonitis of the right upper quadrant in young women, the clinical and pathologic features are sufficiently distinct and uniform to justify the belief that the diagnosis may sometimes be made without great difficulty.

2. These cases, which represent the acute stage, help to complete the picture of the condition the end stage of which has been described by Curtis as "violin-string" adhesions between the anterior surface of the liver and the anterior abdominal wall occurring in women with present gonorrheal salpingitis or a previous history of that condition.

2020 Locust Street.

2. Norris, C. C.: Gonorrhea in Women, Philadelphia, W. B. Saunders Company, 1913, pp. 355-360.

Clinical Notes, Suggestions and New Instruments

TRAUMATIC INFECTED INTERSTITIAL MYOSITIS AS A CAUSE OF PARANEPHRIC ABSCESS

ALFRED BROWN, M.D., OMAHA
Professor of Surgery, University of Nebraska College of Medicine

In December 1927 [1] I called attention to the occurrence of an abscess of the lumbar region which was situated outside the perirenal fat in a space bounded in front by the posterior parietal peritoneum and perirenal capsule, behind and laterally by the deep muscles of the back, above by the diaphragm and below by the lower boundary of the false pelvis. This type of abscess I considered to be due to trauma in the form of a muscle strain or contusion which caused a tear either of the muscle fibers themselves or of the capsule of the muscle, from which a localized area of hemorrhage or exudate resulted. Subsequent infection of this area caused the abscess. Two cases were cited which appeared to bear out this hypothesis, which at the time was offered as a hypothesis without definite proof. In the paper I wrote: "If this assumption of hemorrhage as the causative factor in this type of abscess is correct, and it seems to be most reasonable, it is questionable whether these abscesses should be classified as true perinephritic abcesses or rather as abscesses of the paranephric body of Zuckerkandl and Gerota, which is a continuation of the subperitoneal fascia of the abdominal wall and lies outside the true perirenal fat. . . . If hemorrhage results from muscular violence, such as a sudden strain, which is presupposed in this condition, it would come from the tearing apart of a few muscle fibers resulting from the sudden violence. The blood escaping from the surface of the muscle would enter the fatty layer covering this surface and would not reach the perirenal fat, as it would not perforate the fascia of Gerota unless that structure were

1. Brown, Alfred: Retroperitoneal Lumbar (Paranephric) Abscess, J. A. M. A. 90:666-668 (March 3) 1928.

torn, and a tear of this fascia, because of its mobility, would not be apt to occur from muscular violence."

As can be seen from the foregoing description, the etiologic factor was purely an assumption and at the time was offered without proof other than deduction. Since that time, however, I have had the opportunity of studying a case of trauma to the back which furnished material not only clinical but also pathologic, which seems to demonstrate conclusively that this

Fig. 1.—Section under low power showing collection of round cells, destruction of muscle fibers and newly forming connective tissue.

type of abscess is the result of muscle trauma in the position described and that the assumption offered is correct.

REPORT OF CASE

D. B., a schoolboy, aged 15 years, admitted to the University Hospital, Nov. 23, 1929, complained chiefly of pain in the right side of the abdomen, front and back, and in the region of the right kidney.

October 16, five weeks and three days before, the patient was hit in the back with a chair while scuffling in school. For about thirty seconds following the blow he was dazed and paralyzed, after which he fell in a chair and felt a sharp pain in the right kidney region. After two or three minutes he got up and after five or ten minutes the pain had left him. Four days later, October 20, the patient began to feel a dull aching pain, which lasted five days, at which time, the patient said, relief was obtained by a visit to an osteopath, who stated that he replaced four vertebrae which had been knocked loose. This same afternoon, October 25, the patient's arm was accidentally jerked, and he nearly lost his balance, bending his back, again causing pain. Three or four days later he had the "flu," which made the pain quite severe.

Some time during the first week of November he noticed a soft, sore mass in the right upper quadrant of the abdomen. This increased in size and soreness for several days, until it became very painful except when he kept his breathing very shallow. About November 10 it felt as if this mass had broken, and his symptoms were greatly relieved. For two or three days before and after this feeling of the mass breaking he had coughed once or twice each morning and brought up a yellow sticky material that contained blood, which was sometimes bright red and at other times dark red. A few days after the apparent breaking of the mass the patient felt a hard lump in the right side of the abdomen which he could move easily nearly over to the midline and into the right upper quadrant. This mass was very sore on palpation. It felt about as big as a hen's egg. A few days later the lump could not be found by the patient. It had last been pushed to the right upper quadrant. About the same period, during which the patient could feel this lump, he states that when he pressed along the hip on his right side it felt as if he was forcing fluid from this region.

He had had only slight pain since the breaking of the first mass and had practically none on entrance to the hospital. He was advised to enter to have an abscess in the right side of the abdomen drained.

Since the accident the patient had lost 27 pounds, or 11.3 Kg., his weight having dropped from 149 to 122 pounds, (67.6 to 55.31 Kg.). This he attributed largely to pills that he had been taking for about a week and a half, which caused about six to ten bowel movements a day.

The previous history was good. He had had his tonsils removed, had sprained an ankle and had a few minor injuries in the fall; otherwise he had always been well. He had never had any burning on urination, frequency, retention or nocturia.

The family history was negative.

Physical examination by the house surgeon was negative except locally, which disclosed a very evident tenderness on palpation in the right upper quadrant posteriorly. A palpable mass in this region gave the impression of being part of or the entire right kidney.

The patient's temperature ranged from 98.6 to 96 F. Most of the time it was subnormal. The pulse varied during the days of examination from 60 to 96, with a variation of about 20 beats each day. The respirations were from 18 to 22.

The day following admission the urine was clear; the specific gravity was 1.020, the reaction was acid and there was no albumin, no dextrose and no acetone. Microscopic examination showed débris, a few leukocytes and a few epithelial cells.

The day after admission the blood count was: red blood cells, 4,940,000; hemoglobin, 80 per cent; leukocytes, 13,800; polymorphonuclears, 75 per cent; lymphocytes, 24 per cent; transitional cells, 1 per cent. December 1, the leukocytes numbered 14,000; December 4 (two days after operation) there were 14,300; December 10 (eight days after operation) there were 7,700, with polymorphonuclears, 61 per cent, and lymphocytes, 39 per cent. The Wassermann reaction was negative.

The presence of a paranephric abscess was suspected and measures were taken to determine the condition of the urinary tract.

In a report on the roentgenograms, November 26, Dr. James S. McAvin stated that studies made with special references to the kidney, ureter and bladder tract did not demonstrate any gross bony abnormality. The kidneys were markedly obscured by gas, especially on the left side; that on the right showed no

Fig. 2.—Section under low power showing interstitial myositis with miliary abscess.

appreciable increase in size. There was no evidence of renal calculi.

November 29, ureteral catheterization was performed by Dr. C. A. Owens, and Dr. Carleton B. Peirce made the following report on a pyelogram:

"Ureteral catheterization on the right side followed by injection demonstrated a rather large renal pelvis, the minor calices having short thick necks, the cusps rather shallow. There is an apparent incomplete filling of the inferior calices. The outer margin of the kidney is well defined. We would be curious

about the urinary findings as possibly indicating some localized pathology causing the defect in the inferior calix which we cannot attribute to inadequate pressure."

In the light of the conditions found at operation the roentgen examination is of great interest, showing as it does a squeezing of the calices of the lower pole of the kidney by the pressure of a mass outside the perirenal fat.

Operation was performed, December 2. The preoperative diagnosis was hematoma in paranephric space, infected, and the postoperative diagnosis was the same.

An oblique kidney incision was made over the right kidney and deepened to the perirenal capsule (fascia of Gerota). At the lower part of the incision opposite the fourth lumbar spine, a definite mass of material consisting of broken down blood clot and a small amount of pus surrounded by newly formed connective tissue was found in and in front of the psoas and quadratus lumborum muscles. This extended up to and involved the lower portion of the perirenal capsule, but the perirenal fat and kidney were uninvolved. A fragment of the wall of the abscess was removed for microscopic examination, a cigaret drain was inserted and the wound was closed.

The material consisted of a small portion of muscle which in part appeared to be replaced by connective tissue.

Microscopic examination disclosed that adjoining one surface of the muscle was a dense exudate of fibrinopurulent material

Fig. 3.—Interstitial myositis under high power.

associated with an underlying overgrowth of connective tissue both of mature and of fibroblastic cells. In the muscle itself there was considerable amount of connective tissue overgrowth associated with numerous focal areas of leukocytic infiltration, as shown in the accompanying illustrations.

The pathologic diagnosis was acute and chronic interstitial myositis.

The postoperative convalescence was rapid and uneventful, and the patient was discharged on the eighth postoperative day with the wound almost healed.

December 21, eleven days after discharge, the patient returned to the follow-up clinic and the report made at that time stated that the condition was wonderfully improved. The patient had gained 26 pounds (11.8 Kg.) and the wound was in excellent condition.

CONCLUSIONS

It would seem clear from the observations made in this case that there exisits a type of traumatic abscess of the back involving the contents of the paranephric space which is due to muscle trauma accompanied by hemorrhage. The first result of the trauma is interstitial myositis in which, if infection follows, small abscesses form which may coalesce and, with the infected hematoma, form a large abscess.

This type of abscess is separate and distinct from the abscess involving the perirenal fat and might more properly be designated "paranephric" than "perinephritic" abscess.

Medical Arts Building.

NEUTROPENIA FOLLOWING THE ADMINISTRATION OF AMIDOPYRINE: REPORT OF A CASE

I. S. ZINBERG, M.D.; LAWRENCE KATZENSTEIN, M.D., AND L. E. WICE, M.D., BALTIMORE

A. W., a Jewish woman, aged 46, admitted to the private medical service of the Sinai Hospital, March 1, 1934, complained of fever, cough, and shortness of breath, of seven days' duration.

The family history was unimportant. The only noteworthy events in the past history were an appendectomy twenty-five years previously and an uncomplicated pneumonia in March 1933. A review of the systems shows the patient to have been

TABLE 1.—*Blood Counts to March 13*

	White Blood Cells	Polymorphonuclear Leukocytes, per Cent
On admission	17,000	96
March 2	19,300	95
March 3	24,100	96
March 4	20,500	91
March 6	11,500	84
March 13	7,850	75

in good health except for high blood pressure with headaches during the last ten years. These headaches have been relieved by one or two tablets of acetylsalicylic acid. However, about five years before the patient was given a white pill, other than acetylsalicylic acid, for a headache. About an hour later she had a severe chill lasting fifteen minutes. As both the physician who wrote the prescription and the pharmacist who filled it are now dead, the identity of the "white pill" must remain a mystery. With this one exception, the patient states that she has taken no other sedatives or antipyretics besides acetylsalicylic acid and codeine.

The present illness started, Feb. 23, 1934, with a chill, fever, cough, expectoration of rusty sputum, and shortness of breath. During the following week these symptoms increased in severity, and the patient was hospitalized, March 1.

On physical examination the patient was obese and acutely ill and presented typical signs of pneumonia of the left lower lobe. Aside from a loud blowing systolic murmur at the apex of the heart and moderate abdominal distention, the remainder of the examination was negative.

Laboratory examination revealed: red blood cells, 4,100,000; hemoglobin, 85 per cent (Sahli); white blood cells, 17,000; polymorphonuclear leukocytes, 96 per cent; lymphocytes, 4 per cent. All cells appeared normal. Examination of the urine and stool was negative; blood sugar was 114 mg. per hundred cubic centimeters, and the blood urea was 35 mg. The blood Wassermann test was negative. Typing of the sputum showed pneumococcus type I.

TABLE 2.—*Blood Counts, March 28-April 10*

	White Blood Cells	Polymorphonuclear Leukocytes, per Cent	Metamyelocytes, per Cent	Lymphocytes, per Cent	Monocytes, per Cent
March 28	4,200	25	4	68	3
March 30	8,700	53	2	44	1
April 3	8,800	49	..	48	3
April 10	8,600	67	..	31	2

After three weeks the temperature was normal, and there was no longer evidence of pneumonia. The blood counts during this period are given in table 1.

During this time the patient received no antipyretics but was given the following barbiturates: two dial-Ciba tablets, March 4; 1½ grain (0.1 Gm.) of phenobarbital, March 5 and 6; 7½ grains (0.5 Gm.) of barbital, March 9 to March 12, and daily from March 13 to 16; 1½ grains of phenobarbital, March 20, and 5 grains (0.3 Gm.) of barbital, March 22, 23 and 24.

March 25 at 10:55 p. m. the patient had a chill lasting about ten minutes, with a subsequent mouth temperature of 100 F. The only complaint was marked weakness, and examination showed nothing noteworthy. The next day the temperature was normal. Because of a headache 5 grains of acetylsalicylic

acid and 5 grains of amidopyrine were given at 1:25 p. m. Five grains of barbital was given at 9 o'clock. The next morning, March 27, the patient had a chill lasting about five minutes, with no other objective changes. That afternoon the blood count was: white blood cells, 2,700; polymorphonuclears, 28 per cent; lymphocytes, 71 per cent; monocytes, 1 per cent.

Succeeding counts are given in Table 2.

From March 28 to April 10, the convalescence was uneventful. No antipyretics were given, and the only sedative used was codeine.

TABLE 3.—*Blood Counts, April 11-April 14*

	White Blood Cells	Polymorphonuclear Leukocytes, per Cent	Lymphocytes, per Cent	Monocytes, per Cent
During the chill				
At 2:55 p. m.	4,600	18	80	2
At 3:45 p. m.	1,300	43	56	1
At 4:45 p. m.	1,500	42	58	..
At 8:45 p. m.	1,450	49	51	..
April 12	2,200	18	80	2
April 13	4,200	37	60	3
April 14	7,850	37	61	2

April 11 at 1:30 p. m. 5 grains of amidopyrine was given. At 2:45 p. m. the patient had a severe chill lasting fifteen minutes, with a subsequent rise in mouth temperature to 101.4 F. Later in the afternoon she became perfectly comfortable and has suffered no ill effects whatever from the experience.

The blood counts at this period are given in table 3.

2320 Eutaw Place.

REACTIONS TO CERTAIN BARBITAL DERIVATIVES

FLORENCE L. MEREDITH, M.D., BOSTON

The following case has a bearing on the subject recently discussed by Loveman.[1]

A white woman, aged 39, took one allonal (allylisopropylbarbituric acid with amidopyrine) tablet at night, Jan. 28, 1928. In the morning she noticed three roundish inflamed areas, one each on the front of the neck, the side of the neck and the inner aspect of the midthigh region. They were deeply red in the center and shaded off into the normal skin. They itched slightly and felt warm subjectively and objectively. She applied an ointment, and in three or four days the diffuse redness and itching had disappeared, leaving, however, clearly defined reddened areas about 1 inch in circumference. Because those on the neck were disfiguring, she consulted a dermatologist, who made a diagnosis of cryptococcic infection, prescribed medication to produce epidermal scaling and disinfection, and told her that it would probably be years before they entirely disappeared.

She used the medication faithfully for several weeks but discontinued it finally, as it seemed to her to perpetuate the redness. Scaling occurred to some degree but without any change in the underlying tissue. Itching continued as long as the medication was used.

After she stopped all forms of treatment, the lesions finally settled down to clear-cut rather deeply pigmented brownish areas. Although aware of the fact that the first lesions had followed the taking of allonal, about six weeks after the lesions first appeared she again took allonal, with the result that the three original lesions reappeared exactly as they did at first.

She has not taken allonal since then, but exacerbations have occurred as follows: Sedormid caused an exacerbation which appeared slowly after four or five nightly doses; dial, after one dose; phenolphthalein, contained in a liquid petrolatum preparation, after one dose; sodium amytal, after one dose. The latter caused the most violent reaction of all. Amidopyrine (Pyramidon) has never caused trouble. No new lesions of the type under discussion have occurred. Each time they reappeared, the redness has faded more rapidly than on the previous occasion. These three lesions have finally become nearly normal. First, minute punctate areas of normal color appeared, and now only minute punctate areas of pigmentation are present, which are scarcely visible. A slight exacerbation occurred during the summer of 1933 in connection with sunburn of the neck, followed by deeper pigmentation in these areas than elsewhere; but as the tan faded, the final effect on these areas seemed to have been good.

Jan. 25, 1934, a physician in another city prescribed Belledenal "Sandoz" as an antispasmodic. The next morning she reported that the three original lesions had reappeared, with considerable redness and itching. She took one-half tablet (each Belledenal tablet contains 1/250 grain [0.00025 Gm.] of bellafoline, or belladonna alkaloids as malates, and three-fourths grain [0.048 Gm.] of phenobarbital). A week later she reported that the reaction had been intense but had subsided in three days, leaving the areas more nearly normal in appearance than they had been since 1928.

Prior to the appearance of the three lesions mentioned, the patient had been subject to a skin eruption similar to acne rosacea, together with slight swelling of the forehead and hands, severe headache and digestive "upset." She had never been able to trace these symptoms to the ingestion of any particular food or drug, nor had her physicians been able to find a cause for them. Following appendectomy three years ago, she became much less susceptible to these symptoms and has not had them except in connection with the same drugs that cause exacerbation of the lesions under discussion.

466 Commonwealth Avenue.

1. Loveman, A. B.: Experimental Aspect of Fixed Eruption Due to Alurate, a Compound of Allonal, J. A. M. A. 102:97 (Jan. 13) 1934.

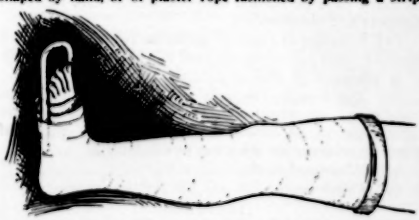
SIMPLE CRADLE ATTACHMENT FOR PLASTER CAST OF FOOT

PHILIP LEWIN, M.D., CHICAGO

A simple cradle is useful to protect the toes in cases in which a foot or leg cast is indicated. It is simply the application of a wire or plaster rope wicket to protect the toes. I am indebted to Dr. Arthur P. Picard for the suggestion.

When the cast is complete and just before the stockinet is turned down to make a French cuff, a slit is made on each side of the stockinet. It is turned back, spanning each side of the wicket, and two or three turns of plaster are applied to secure the wicket in position. Plaster rope may be used to secure the contact edges.

The wicket can be made of No. 12 gage galvanized wire, shaped by hand, or of plaster rope fashioned by passing a strip



Cradle attachment for plaster cast of foot.

of bandage through the partly closed hand. The distance between the ends of the toes and the wicket should be about 1½ inches. The ends of the wire may be curled or bent to afford greater stability.

If desired, the cradle may be made removable by incorporating a clamp on each side of the cast and inserting the wicket when needed. A combination groove and corrugation may be used.

Wire may be used as a core for the plaster wicket. If plaster is used, the ends should be spread out, fan shape.

The wicket can be modified to function like a banjo splint used in the treatment of lesions of the hand and fingers. It can be used in conjunction with a walking iron. A 50 foot roll of galvanized 12 gage wire can be purchased for 20 cents. The wire of an ordinary coat hanger furnishes excellent material for a wicket.

104 South Michigan Avenue.

Therapeutics

THE THERAPY OF THE COOK COUNTY HOSPITAL

Edited by BERNARD FANTUS, M.D.
CHICAGO

Note.—In their preparation, these articles are submitted to the members of the attending staff of the Cook County Hospital by the director of therapeutics, Dr. Bernard Fantus. The views expressed by various members are incorporated in the final draft prepared for publication. The series of articles will be continued from time to time in these columns.—Ed.

THERAPY OF RHEUMATIC FEVER

PROPHYLAXIS

1. The patient's resistance should be increased by:

(*a*) A nutritious diet, including an abundance of vitamins.

(*b*) The administration of cod liver oil.

(*c*) An outdoor life.

(*d*) Graduated tonic cold hydrotherapy.

2. Chilling, especially when fatigued, should be avoided by:

(*a*) Warm clothing (but not to the extent of sweating).

(*b*) Avoidance of prolonged exposure to cold and wet. Wet garments, especially shoes and stockings, should be changed at the earliest possible moment.

(*c*) One should change to a warm climate. Rheumatic fever does not occur in the tropics.

3. Adequate treatment of the primary infection should be given by:

(*a*) Keeping the patient in a warm room if mild symptoms of a cold are present.

(*b*) Absolute rest in bed, if there is a fever, and for as many days of normal temperature as there has been temperature abnormality.

(*c*) Isolation of cases of catarrhal fever, or enforced absence from school on the part of children so infected.

4. Removal of foci of infection in:

(*a*) The tonsils: frequently repeated tonsillitis is an indication for tonsillectomy; or whenever rheumatic fever, chorea or carditis follows tonsillitis, provided there is evidence of infection in the tonsils.

(*b*) Abscessed teeth.

(*c*) Other tissues.

TREATMENT

1. Absolute rest in bed should be insisted on:

(*a*) For several (at least three) weeks after the temperature has become normal and the arthritic symptoms have subsided.

(*b*) For several months, if there is any evidence of heart involvement, particularly in children. A walk to the bathroom may bring on a relapse.

2. Chilling should be avoided by:

(*a*) Adequate but not excessive bed coverings.

(*b*) Drying the skin and changing (with due care against exposure) the night gown and, if necessary, the bed clothing when these are wet with sweat.

3. Analgesics to be employed are the following:

(*a*) While no cure for rheumatic fever and not even shortening the duration of the disease, salicylate is in adequate doses often almost specific in checking pain and joint inflammation. When it fails to do so within three days, it may as well be abandoned for that particular attack. Salicylization is best accomplished by giving sodium salicylate (prescription 1 or 2) in doses of 1 Gm., 75 per cent for women, from 30 to 50 per cent for children (prescription 3) every hour, generally for eight or ten doses or until pains are relieved, or until salicylism (severe tinnitus, excessive sweating,

Prescription 1.—*Sodium Salicylate*

℞	Sodium salicylate	30.00 Gm.
	Sodium bicarbonate	60.00 Gm.

Divide into thirty powders.

Label: One powder in a glassful of seltzer water every hour, until relieved or until symptoms of intolerance (severe tinnitus, excessive sweating, vomiting, delirium).

Prescription 2.—*Sodium Salicylate*

℞	Sodium salicylate	30.00 Gm.
	Sodium bicarbonate	90.00 Gm.

Divide into thirty blue powder papers.

℞	Citric acid	30.00 Gm.

Divide into thirty white powder papers.

Label: One of each in half a glass of water every hour until the condition is relieved or until symptoms of intolerance appear.

Prescription 3.—*Sodium Salicylate*

℞	Sodium salicylate	5.00 Gm.
	Potassium bicarbonate	10.00 Gm.
	Cinnamon water	60.00 cc.
	Syrup of cinnamon, to make	120.00 cc.

M. Label: Two teaspoonfuls in water every hour, the dose being reduced on the appearance of symptoms of intolerance.

Prescription 4.—*Sodium Salicylate*

℞	Sodium salicylate	40.00 Gm.

Divide into ten powders.

Label: Dissolve powder in 4 ounces of thin starch water and use as a retention enema every eight hours.

and vomiting, especially prone to occur if there is carditis or delirium) is complained of. Mild sweating or tinnitus may be disregarded. Then a dose may be given every two hours, possibly for two days; every three hours, possibly for three days; every four hours for four days, and so on; the salicylate being continued in this manner, in gradually decreasing dosage, in order to lessen liability to relapse. Recurrence of symptoms calls for prompt resumption of the original dosage, which may not now be as successful. When the salicylate is not tolerated by the stomach, it may be administered by rectum after a cleansing enema (prescription 4).

(*b*) Amidopyrine (prescription 5) in doses of 0.3 Gm. every hour until pain is relieved, then at slowly but progressively increasing intervals, is indicated in

Prescription 5.—*Amidopyrine*

℞	30 Amidopyrine tablets	0.30 Gm.

Label: One every hour until the pain is relieved, then every two hours, and at gradually increasing intervals.

cases that do not respond to salicylate. When this agent is employed, the leukocyte count should be controlled, to forestall the development of granulopenia.

(*c*) Morphine (see Pain) may be administered hypodermically at once in a sufficient dose to relieve the pain, repeated every four hours in half the preceding dose, and discontinued as soon as the pain-relieving effect of the other remedies has been secured.

4. Resistance should be increased.

(*a*) Alkalis (prescription 6) in sufficient dosage to render the urine alkaline are probably of value in

Prescription 6.—*Sodium Citrate*

℞	Sodium citrate	30.00 Gm.
	Syrup of orange	60.00 cc.
	Water, to make	120.00 cc.

M. Label: Teaspoonful in lemonade or orangeade, or added to dose of salicylate every two hours.

antagonizing the tendency to acidosis, which is believed to lessen resistance.

(*b*) Protein shock therapy is useful in obstinate cases, especially in those with a tendency to relapse, e. g., by typhoid vaccine (from 40 up to 75 million) intravenously. It is contraindicated in elderly individuals and those crippled by organic disease.

5. Local therapy includes:

(*a*) Absolute rest to the affected joint by pillows, sandbags or light, easily removable splints (not plaster of paris).

(*b*) Warmth, e. g., wrapping of the affected joints in cotton pads 1 inch thick, 2 or 3 feet long and covering one and one-half times the circumference of the joint, the cotton being placed between layers of gauze and tied on with tapes.

(*c*) Compresses of hot half-saturated solution of magnesium sulphate.

(*d*) Rubefaction by means of methyl salicylate (which may be diluted with oil for tender skins) painted on two or three times daily and covered with a cotton bandage.

(*e*) Blisters (prescription 7) against obstinate pain and tenderness.

PRESCRIPTION 7.—*Cantharides Plasters*

℞ Six Cantharides plasters, 1 by 1 inch each.
Label: Apply one over the most tender point for eight hours. Apply another one over the next most tender point, and so on.

(*f*) Aspiration of joints tensely distended with fluid.

6. The general regimen includes:

Water in abundance, a liquid diet during the febrile period, and liberal semisolid and general diet later. Protein need not be restricted.

Laxatives as required.

7. Convalescence may possibly be expedited by the following:

(*a*) Iron, as in the form of pills of ferrous carbonate (0.3 Gm.) may be given three times daily, to each of which arsenic trioxide, 0.002 Gm., might be added (prescription 8), to help in overcoming the anemia.

PRESCRIPTION 8.—*Arsenic Trioxide*

℞	Arsenic trioxide	0.06 Gm.
	Mass of ferrous carbonate	10.00 Gm.
Mix and divide into thirty pills.		
Label: One three times a day after meals.		

(*b*) Iodide is believed to be of possible value in the prevention of undue fibrosis. It may be given in doses of 0.3 Gm. three times daily after meals. The syrup of ferrous iodide (1 cc.) is compatible with iodide and may be combined with it as in prescription 9.

PRESCRIPTION 9.—*Potassium Iodide and Syrup of Ferrous Iodide*

℞	Potassium iodide	10.00 Gm.
	Syrup of ferrous iodide	30.00 cc.
	Syrup of orange flowers, to make	120.00 cc.
M. Label: Teaspoonful in milk three times daily after meals.		

PRESCRIPTION 10.—*Cod Liver Oil*

℞	Emulsion of cod liver oil	240.00 cc.
Label: From one teaspoonful to one tablespoonful three times daily after meals.		

(*c*) Cod liver oil (prescription 10) may serve to improve nutrition in a patient much emaciated. It should not be given, however, until the fever has subsided, the appetite has returned, and a liberal amount of food is being taken.

8. Relapses may be prevented by the measures described for prophylaxis. Tonsillectomy is to be considered, but not until the patient has completely recovered, and then only if the tonsils are definitely diseased.

Council on Physical Therapy

THE COUNCIL ON PHYSICAL THERAPY OF THE AMERICAN MEDICAL ASSOCIATION HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORTS.
H. A. CARTER, Secretary.

SPECIAL COMMITTEE ON PHYSICAL THERAPY OF THE CALIFORNIA STATE MEDICAL ASSOCIATION

A special committee on physical therapy of the California State Medical Association was appointed by the council of the California State Medical Association at its meeting in September, 1932. At that time Dr. John Severy Hibben, Pasadena, was selected as chairman. Later the four following men from different parts of the state were appointed: Dr. Rodney F. Atsatt, Santa Barbara; Dr. Howard Naffziger, San Francisco; Dr. R. Leslie Langnecker, San Francisco, and Dr. Charles L. Lowman, Los Angeles.

One of the reasons advanced for creating such a committee was the suggestion that many members of the medical profession do not fully understand that physical therapeutic agents are a part of the regular professional armamentarium in the practice of medicine and surgery and that those practicing physical therapy should have opportunities to receive ample training and postgraduate instruction given by qualified physicians or teaching institutions other than by salesmen of physical therapy apparatus or commercial lecturers.

The first activity of the committee was to make a survey of all the medical colleges, hospitals and medical societies in the state. A questionnaire was sent to four medical colleges. The returns showed that only two of these colleges offered instruction in physical therapy. Then a questionnaire was sent to thirty-nine county medical societies and each was asked to appoint a special committee to cooperate with the state committee. It was hoped that in this way interest and attention might be directed toward physical therapy, not necessarily to increase the use of it but to improve the quality of that practice. Of the thirty-nine county medical societies, fourteen have already created special committees on physical therapy.

A questionnaire was also sent to fifty-one hospitals in the state. In answer to the question "Do you possess a physical therapy department," thirty-five out of the thirty-nine replied "yes" and four answered "no." The committee offered its advice to the hospitals contemplating establishing physical therapy departments. The committee also suggested to the chairmen of the medical hospital boards having physical therapy departments that they encourage the presentation of papers at the meetings in order to stimulate a better and more intelligent discussion of the value and limitations of the subject.

Numerous papers and lectures were given and films shown before medical societies and hospitals. The committee has also sponsored several radio talks on the subject of physical therapy. It hopes to be able to offer free instruction on courses in physical therapy and also have available a list of accredited institutions which offer graduate and postgraduate instruction. The special committee is now trying to reestablish contact with the medical societies that have not appointed committees and cooperate with the committees that have been appointed. This cooperation will include a more detailed survey of hospitals and institutions practicing physical therapy; promotion of the teaching of physical therapy to graduates and undergraduates in medical schools and hospitals; the making of a survey of such schools to ascertain in writing their curriculum and requirements for admission, number of students graduated each year and whether diplomas are given; securing the cooperation of manufacturers and distributors in an effort to do away with commercial courses; ascertaining the number of regular and irregular establishments offering some form of physical therapy treatment to the public and under what authority they operate; encouraging the presentation of papers on physical therapy subjects at meetings of state and county

medical societies and at hospital staff meetings, and making sure that physical therapeutic literature and books are obtainable in medical and hospital libraries.

The purpose and achievements of this committee are commendable. The Council on Physical Therapy hopes that more state medical societies will follow the example of the California State Medical Association by establishing special committees on physical therapy with the aim of cooperation with the Council on Physical Therapy in a program intended to lead to fuller appreciation of the importance and use of physical therapy in the treatment of disease. Further reports on the status of physical therapy in other states will be published when available.

VICTOR DIATHERMY APPARATUS ACCEPTABLE

The General Electric X-Ray Corporation of Chicago manufactures the following apparatus, designed to generate high frequency electrical currents for therapeutic purposes:

V2857. Vario-Frequency Diathermy Outfit, with Auto Condensation Coil and Meter, arranged for operation on 115 volt, 60 cycle alternating current. Shipping weight 155 pounds, or 70 Kg. (fig. 1).

V2858. Same as foregoing but for operation on 230 volt, 60 cycle alternating current. Shipping weight 155 pounds, or 70 Kg.

V2855. Vario-Frequency Diathermy Outfit, without Auto-Condensation Coil, arranged for operation on 115 volt, 60 cycle alternating current. Shipping weight 150 pounds, or 68 Kg.

V2856. Same as foregoing but for operation on 230 volts, 60 cycle alternating current. This apparatus is also obtainable for 25-49 cycles on special order. Shipping weight 150 pounds, or 60 Kg.

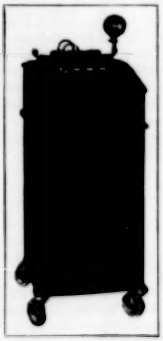


Fig. 1.—Victor Vario-Frequency Diathermy Machine.

Several of these units have been investigated in laboratories and clinics acceptable to the Council. The reports indicate that the machines are reliable and satisfactorily constructed. Furthermore, the merchandising policies of the corporation conform with the Official Rules of the Council.

These machines are marketed under the trade name "Vario-Frequency." As interpreted by the firm, high frequency generators equipped with this feature enable the operator of these devices to vary within limits the frequency of the diathermy current generated. The corporation does not claim specific biologic effects for the range of frequencies ordinarily obtained in diathermy or obtained by the selection of various taps. The investigation of the Council confirmed the claim that, by the selection of various taps provided, the frequency of the diathermy current can be varied. The Council regarded the machines as satisfactory generators of high frequency electric current for use in electrosurgery and the practice of physical therapy. Figure 2 is a schematic diagram of the circuit.

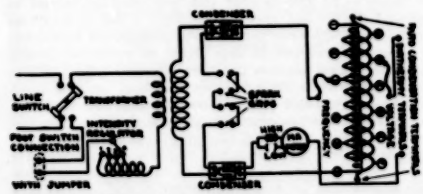


Fig. 2.—Schematic diagram of circuit.

The Council declared the apparatus eligible for acceptance and included them in the list of accepted devices.

Council on Pharmacy and Chemistry

NEW AND NONOFFICIAL REMEDIES

THE FOLLOWING ADDITIONAL ARTICLES HAVE BEEN ACCEPTED AS CONFORMING TO THE RULES OF THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR ADMISSION TO NEW AND NONOFFICIAL REMEDIES. A COPY OF THE RULES ON WHICH THE COUNCIL BASES ITS ACTION WILL BE SENT ON APPLICATION.

PAUL NICHOLAS LEECH, Secretary.

SOLUBLE BARBITAL (See New and Nonofficial Remedies, 1934, p. 104).

Medinal.—A brand of soluble barbital—U. S. P.

Manufactured by Schering & Glatz, Inc., New York. U. S. patent 780,241 (Jan. 17, 1905; expired) and 879,499 (Feb. 18, 1908; expired). U. S. trademark 269,753.

Medinal Tablets, 5 grs.

Medinal Suppositories, 10 grs.

PROCAINE HYDROCHLORIDE (See New and Nonofficial Remedies, 1934, p. 60).

The following dosage forms have been accepted:

Ampule Solution Procaine Hydrochloride 2%, 1 cc.: Each cubic centimeter contains procaine hydrochloride-U. S. P. 0.02 Gm. (⅓ grain) in aqueous solution.

Prepared by the Cheplin Biological Laboratories, Inc., Syracuse, N. Y. No U. S. patent or trademark.

Ampule Solution Procaine and Epinephrine, 1 cc.: Each cubic centimeter contains procaine hydrochloride-U. S. P. 0.02 Gm. (⅓ grain), epinephrine 0.04 mg. (1/1500 grain) and sodium bisulphite 0.001 Gm., in an aqueous solution containing less than 0.5 per cent of chlorbutanol.

Prepared by the Cheplin Biological Laboratories, Inc., Syracuse, N. Y. No U. S. patent or trademark.

CHINIOFON (See New and Nonofficial Remedies, 1934, p. 138).

Chiniofon-Winthrop.—A brand of chiniofon-N. N. R.

Manufactured by the Winthrop Chemical Company, Inc., New York. No U. S. patent or trademark.

Tablets Chiniofon-Winthrop, 0.25 Gm. (4 grains): The tablets are coated with keratin.

REPORTS OF THE COUNCIL

THE COUNCIL HAS AUTHORIZED PUBLICATION OF THE FOLLOWING RELATIVELY RECENT DECISIONS FOR THE INFORMATION OF BOTH THE PROFESSION AND MANUFACTURERS.

PAUL NICHOLAS LEECH, Secretary.

RECENT REVISIONS OR ELABORATIONS OF THE COUNCIL'S RULES OF INTEREST TO MANUFACTURERS AND THE MEDICAL PROFESSION

1. Scope of N. N. R.

Soaps.—The Council considered the question of the eligibility of soaps for inclusion in New and Nonofficial Remedies. It was pointed out that soap is not primarily a medicinal agent nor is it a new and nonofficial remedy, but it is a borderline preparation between cosmetics and therapeutic agents. The Council concluded for the present not to consider soap preparations which are employed simply for their detergent effect and for which no unwarranted therapeutic claims are made.

Cosmetics.—The Council has reaffirmed its previous decision that cosmetic preparations which are marketed with no special therapeutic claims are outside the scope of the Council's consideration.

The Term "Open Market."—Under the heading "Substances Described in New and Nonofficial Remedies" (N. N. R. 1934, p. 15) occurs the following statement:

An article will not be accepted or retained unless it is found in the open market under the name of the firm under which it is submitted or accepted.

The Council's attention was directed to some difficulties that had arisen in the interpretation of this provision, which is the result of a recent revision. It was pointed out that, if the interpretation of the phrase "open market" is restricted to drugs found at retail, the Council would probably overlook instances in which shipments of drugs in quantity may go to institutions, eventually to be dispensed, and which are pre-

sumably as much in need of supervision by the Council as drugs sold over the counter. The Council decided that the term "open market" contemplates both the retail and the wholesale dispensing of drugs and directed that the statement quoted be elaborated by addition of the following:

The term "open market" contemplates both the wholesale and the retail merchandising of drugs.

2. Rule 1—Composition

Labeling of Ampules.—In conformance with the conclusion of a combined contact committee representing the manufacturers of pharmaceuticals, the U. S. Food and Drug Administration and the American Medical Association, the Council last year adopted the ruling that, in the case of products marketed in ampules, the individual ampule label or unit package thereof must bear the description "— cc. size" together with the explanatory statement: "Each ampoule contains a sufficient amount to permit withdrawal and administration of — cc." This statement may be made on a separate slip attached to the ampule or ampule package. As the result of experience in the carrying out of this ruling, the Council later held that it should not apply to ampules containing more than one dose and further that in the case of serums and vaccines marketed in syringes the explanatory statement need not contain the word "withdrawal."

Label Declaration of Preservative in Pollen Extracts.—While the Council's rules have always required that manufacturers make known the nature of preservatives used in mixtures, there has been no requirement that these be specifically declared on labels and in advertising. In the recent consideration of a pollen preparation it was brought out that the firm is now using a dextrose-phenol menstruum for the product. It was pointed out that the label declaration of the preservative phenol would be of service to the physician in that it would enable him to determine whether or not there is bacterial contamination when the solution becomes cloudy. There is less difficulty with solutions made up with a preservative and occasionally cloudiness does ocur which does not necessarily indicate bacterial contamination. It was therefore decided that the manufacturers of Council-accepted pollen extract preparations be required to declare on labels and in advertising the identity and amount of the preservative contained. It was further required that appropriate revision of labels and advertising be made by Jan. 1, 1935.

3. Rule 4—Indirect Advertising

Permanently Affixed Names.—The comments to the Council's rules provide that when the name or initials or other distinctive mark of the article is permanently stamped on the container, on the article itself, or is on the stoppers or seals, the product is in conflict with rule 4. Recently a manufacturer asked permission to imprint the firm name on its uncoated tablets. The firm stated that the various classes of tablets on which it was desired to make such imprint represent over three fourths of the firm's output of uncoated tablets. The Council decided that whereas the use of such permanently affixed name on a single variety of tablets would be an infringement of rule 4, such use when involving all or a greater part of a firm's output does not conflict with the intent of the rule.

4. Rule 6—Unwarranted Therapeutic Claims

Submission of New Therapeutic Claims.—It was brought to the Council's attention that no rule specifically requires that new therapeutic claims made for articles subsequent to the time of their acceptance be submitted to the Council, although it has been held that such new claims should be submitted for review before they appear in advertising copy. In order to make the rule clear on this point, the Council adopted the recommendation of its Committee on Rules and Procedure that the comments to rule 6 (N. N. R. 1934, p. 19) be revised by insertion after the word "product" (line 6) of the following sentence:

Therapeutic claims made subsequent to the acceptance of an article must be submitted to the Council for review, provided such claims exceed, or substantially modify, those made at the time of acceptance.

The Use of Films for Advertising.—The Council's attention has been brought to the use of films to advertise medicinal preparations. The Council's Committee on Rules and Procedure held that such films should be subjected to Council scrutiny so far as they may relate to the rules governing therapeutic claims and lay or professional advertising. While this activity is essentially a form of advertising, the committee pointed out that it is closely pertinent to rule 6 (Unwarranted Therapeutic Claims) and held that the comments on this rule seems to be the appropriate place to provide for the review of such films. The Council directed that the second paragraph under Unwarranted Therapeutic Claims (N. N. R. 1934, p. 20) be amplified by addition of the following sentence:

The Council holds that the terms "advertising" and "advertising literature" include films and similar devices for informing the public or the profession.

5. Rule 8—Objectionable Names

Coined Names for Salts and Pharmaceutic Preparations.—The Council adopted the following recommendation of its Committee on Rules and Procedure:

1. That coined names for salts be not accepted unless such names indicate both components, as, for example, "Ephedrine Sulphate"; the name "Ephedrine" is acceptable only for the base; and

2. That coined names for new substances marketed as pharmaceutical preparations be not accepted unless such names adequately indicate the identity or dosage form of the article; for example, a new hypnotic "Aliphal Powder"; and

3. That, for the present, this rule be not made retroactive in its application.

In conformance with this action, the Council adopted the following addition to the "Explanatory Comments" on the rule:

Difficulty frequently arises from the application of coined names to salts. For example, a firm introduces the hydrochloride of a synthetic base under the name "Artificialin." Subsequently the firm decides to introduce the lactate of the same base. If this is called "Artificialin lactate," the name "Artificialin" will now mean the base instead of the hydrochloride which is being marketed under that name. In order to avoid this confusion the Council holds that coined names for salts will not be accepted unless such names indicate the components of such salts; thus, "Artificialin hydrochloride"; the name "Artificialin," unqualified, is acceptable only for the base. A similar difficulty may arise when a product is marketed first only as a pharmaceutic preparation to which the manufacturer wishes to apply a short coined name, for example, an elixir of a new hypnotic under the name "Aliphal." If later the manufacturer elects to market the substance also in powder form, an entirely new name would become necessary and this would cause confusion both to the profession and to the trade. The Council therefore holds that coined names for new substances marketed as pharmaceutic preparations will not be accepted unless such names indicate the type or dosage form of the preparation; thus, "Elixir of Aliphal," "Aliphal Powder," not "Aliphal" unqualified.

Names of Barbital-Amidopyrine Mixtures.—The Council considered the question of creating simple generic names for preparations representing mixtures of barbital and amidopyrine. Various names were suggested but in the end the Council doubted the desirability of contracted names. Since both ingredients are important and both are subject to idiosyncrasies, the Council held it advisable that the prescriber be definitely reminded of each component. The Secretary was directed to advise manufacturers of accepted barbital preparations that the Council is prepared to consider (with a view of determining acceptance for N. N. R.) mixtures (in fixed proportions) of barbitals and amidopyrine under such descriptive name as "Tablets (name of barbital derivative)-Amidopyrine."

The Use of Brand Marks.—The Council's ruling concerning the identification of a firm's products (N. N. R. 1934, p. 22, par. 2) reads as follows:

In the marketing of unoriginal articles, the legitimate interests of the producer are fully served by identifying such products by appending the name or initials of the manufacturer or agent, or by the use of a general brand mark. No objection will be made by the Council to the use of such brand marks, provided that in no case shall such mark be used as a designation for an individual article.

The Council's attention was directed to certain brand marks that may give rise to unwarranted implications of merit or to other misunderstandings. After ruling on a particular instance, the Council decided that the statement just quoted be further clarified by addition of the following:

Names, initials or brand marks of manufacturers or agents when used to denote proprietorship shall not be of such character as to cause any misunderstanding or confusion as to their significance.

Names for Liver Oils.—The Council's rules provide for recognition of an informative coined name for a preparation that represents a distinct advance over available preparations. In accordance with this the name "Haliver Oil" for halibut

liver oil was recognized by the Council because the introduction of this oil of materially higher vitamin A content constituted a departure from the available cod liver oil. This first step appeared to be of sufficient therapeutic importance to warrant permission of a proprietary name. However, the Council holds that the originality of the departure is naturally restricted to the first step and that the introduction of oils from the livers of other animals does not involve any originality unless some other distinguishing factor is present. When, therefore, a firm asked for recognition of a proprietary name for an oil derived from the livers of mammals, the Council refused such recognition and the firm was informed that an acceptable nonproprietary name would be "Liver Oil Mammalian" followed by the name or initials of the firm.

6. Rule 10—Unscientific Articles

Hypophosphites.—For years the Council has held the hypophosphites to be therapeutically worthless. In 1932 the Council accepted an emulsion of cod liver oil on the condition, among others, that the calcium hypophosphite and sodium hypophosphite which the preparation then contained be omitted. Last year the firm informed the Council that complaints had been received from users of the product that the product as marketed became more acid (rancid). The firm felt that this was due to the omission of the hypophosphites and requested permission to restore them to the formula as preservatives. The firm disclaimed any intention of claiming therapeutic effect for the hypophosphites. The Council granted the request on condition that definite statement is made in the advertising for the product that the hypophosphites are added for pharmaceutic purposes only.

Committee on Foods

THE COMMITTEE HAS AUTHORIZED PUBLICATION OF THE FOLLOWING REPORT. RAYMOND HERTWIG, Secretary.

NOT ACCEPTABLE

"HONEY AS A FOOD" ADVERTISING LEAFLET

An advertising leaflet entitled "Honey as a Food," by E. R. Root, editor of Gleanings in Bee Culture and president of the A. I. Root Company, Medina, Ohio, was submitted to the Committee on Foods for consideration for acceptance.

This leaflet is largely a hodgepodge of misinformation concerning alleged values for honey. The use of the names of doctors, professors, bacteriologists, departments of health and hospitals gives the leaflet the semblance of an authoritative statement. The titles of the sections indicate the type of information presented:

"Honey a Natural Food; Honey an Energy Food; Honey Superior to Sugar as a Sweetener; Why Honey Instead of so much Cane Sugar?; Honey in Place of Sugar for Diabetics; The Deadly Parallel of White Sugar and Diabetes; Honey for Diabetes; Honey for Weak Heart; Honey for Athletes; Honey not Injurious to the Teeth like Ordinary Sugar; Honey a Destroyer of Disease Germs. . . . Honey in Automobile Radiators."

The author states:

"A constituent of no slight importance in honey is lime. Unless care is taken in the selection of foods, this important factor in bone-building may be neglected."

Honey contributes an insignificant amount of calcium to the diet. It is incorrectly alleged that ordinary cane sugar "taxes the digestive organs" in the statement:

"Since it does not require a change in form before assimilation, honey, unlike cane sugar, does not tax the digestive organs. Before sugar can be admitted to the blood, it must be in invert form, like the sugars in fruits or honey."

A normal person has no difficulty in digesting cane sugar, one of the most readily digestible of foods. Claims alleging superiority of digestibility of honey over cane sugar serve only to mislead. It is further claimed that:

"Candy-eating, when it comes to be a habit, is ruinous to the teeth as well as to the whole body. . . . There is plenty of authority to show that common white sugar (sucrose), eaten in the quantity that it is, is very injurious to the teeth, while honey, a natural sweet, is not. Among the authorities that may be mentioned that testify that white sugar is injurious to the teeth, are Dr. J. C. Turner, a distinguished English dentist, Dr. J. S. Wallace . . . Sir Henry Baldwin, the king's dentist, Dr. A. C. Fones, etc., etc. . . . Some of these, including Dr. Williams, assert that honey is not harmful to the teeth. . . . Any dentist of standing will tell his patients that the candy-eating habit is the most potential cause of the decay of the teeth. . . . This enormous consumption of refined cane sugar . . . is believed to be responsible in large measure for sugar diseases, the principal one of which is diabetes. . . . There are some interesting facts that go to show that diabetes keeps pace in this country almost directly with the consumption of cane sugar. Cane sugar is demineralized, and therefore not as healthful as the unrefined sugars. But the great abuse of modern civilization is the foolish indulgence in demineralized, devitalized foods of all kinds. . . . It is significant, therefore, that deaths from diabetes keep pace with the per capita consumption of white sugar. . . . Physicians who have made a special study of sugars, especially honey, are recommending the natural sweets found in fruits and in honey instead of so much cane sugar."

There is no objection to eating candy as long as the diet in toto contains sufficient of the essential food substances, vitamins, minerals, proteins and certain fats. Candy is not specifically detrimental to the teeth; the incomplete diet, however, is detrimental. It has not been shown that the replacement of cane sugar with honey would give greater protection to the teeth. Honey has practically the same limited nutritional values as cane sugar. No authoritative data indicate that cane sugar is specially the cause of diabetes. Although assuming, for the sake of argument, that the excessive use of cane sugar may be related to an apparent increase of diabetes, there is no justification for the implication that the substitution of honey for cane sugar in the American diet would alter the situation. The digestion of cane sugar in the gastro-intestinal tract produces invert sugar, the chief ingredient of honey. There is no objection to the use of refined sugars or foods as such. Their excessive use, however, replacing foods furnishing necessary vitamins, minerals and proteins for the body's needs, is detrimental.

An especially deceptive type of claim hazardous to the health of the diabetic patient is:

"Davidoff observed that honey was tolerated by the diabetic to whom sugar in any form was a poison. He reported his finding to the medical fraternity. . . . A large number of people suffering from diabetes have been relieved by substituting honey in place of ordinary sugar."

A quotation of Dr. Banting, as presented, is unsupported by scientific evidence:

"One cannot help but conclude that in the heating and recrystallization of the natural sugar cane something is altered which leaves the refined product a dangerous foodstuff."

An excerpt from the book "The New Dietetics" of Dr. J. H. Kellogg of Battle Creek Sanitarium implies that cane sugar is harmful and something to be feared but states that honey may be "eaten freely," an unwarranted distinction:

"It is quite possible that good results would follow the exchange of at least a considerable part of the cane sugar we consume for honey. . . . Large quantities (cane sugar) cause acidity and give rise to gastric catarrh and indigestion. Sweet fruits, such as raisins, and figs, honey and meltose or malt sugar, are natural and wholesome sweets and may be eaten freely . . ."

Excessive quantities of honey, cane sugar or any other sugar may be harmful.

A misleading therapeutic claim is:

"Honey for Weak Heart. The objection to ordinary granulated sugar or practically all of the commercial sugars, is that they are irritants; they must be changed by the digestive fluids before they can be absorbed. Large quantities of granulated sugar (sucrose) cause a severe strain upon the pancreas. A continued consumption of such sugar causes a breakdown of this organ, often resulting in diabetes, a sugar disease. Doctor Arnold Lorand, author of 'Old Age Deferred,' is one of the most eminent medical authorities in all Germany. In the book 'Old Age Deferred' he says: 'As a most valuable food for overwork of the heart and the general circulation, I recommend honey.' . . . I consider it unwise to place severe cases of diabetes on a strict diet and I recommend to them the use of fruit sugar (levulose) which is often well utilized and especially in a case of diabetes with heart failure. . . . As the best food for the heart I recommend honey on the basis of the above-mentioned observations . . . it is the best sweet food as it does not cause flatulence and can even prevent it, to a certain extent promoting the activity of the bowels. It can easily be added to the five meals a day I recommend in cases of arteriosclerosis and weak heart. . . . Many more references could be produced to show that honey is a quick and satisfactory restorative for weak hearts. . . ."

Honey has no specific value for the morbid conditions referred to as implied.

One of the many examples of the use of high sounding terms for impressively deceiving the credulous follows:

"Doctor Paul Luttinger, of New York City, Adjunct Pediatrist, Bronx Hospital, Pathologist Bronx Hospital, Chief Pediatric Clinic, Bronx Hospital, O. P. D., Lecturer on Diseases of Children at the Flower Hospital

Medical College, Bacteriologist to the Research Laboratory of the New York City Department of Health from 1913 to 1917, and for the last eight years Professor of Bacteriology and Pathology and Director of Laboratories at the First Institute of Pediatry, in the New York Medical Journal and Medical Record for August 2, 1922, writes a strong article favoring the use of honey in place of so much cane sugar. Among other things he says: Honey may be given to children suffering from the most serious diseases, except in diabetes and acute inflammatory conditions of the gastro-intestinal tract. Even in diabetes, however, small quantities of honey may be given as it is much better tolerated than sugar. For the last two years I have been using a jam made from rose leaves and honey exposed to the ultra-violet rays of a quartz-mercury lamp, in cases of rickets and tuberculosis, with excellent results."

The exposure of honey "to the ultra-violet rays of a quartz-mercury lamp" has no known value for the treatment of rickets and tuberculosis.

Ingenuity in the art of deception through implication is shown in the statement:

"Honey as a destroyer of Disease Germs. Dr. W. G. Sackett, bacteriologist of the Colorado Experiment Station, Fort Collins, Colorado, conducted an elaborate series of experiments in which he proved that some of the disease germs that attack human beings die in the presence of honey in a comparatively short time. He summarizes by saying: 'The longevity of the typhoid colon group in honey is very limited. The probability of honey acting as a carrier of typhoid fever, dysentery and various diarrheal affections is very slight.' Dr. A. P. Sturtevant, bacteriologist in the Bureau of Entomology, Washington, D. C., confirming this says that honey has the peculiar and distinctive property of absorbing moisture from anything that comes in contact with it. A certain amount of moisture is necessary to maintain life in all living organisms, so when bacteria comes in contact with honey and this vital amount of moisture is withdrawn it dies."

Statements of this character for promoting a good food are absurd and ludicrous. Honey has no practical value as implied for destroying disease germs inside or outside the body or for preventing disease, infection or the spread of disease.

Probably the most enlightening paragraph of the entire leaflet is the closing one suggesting the usefulness of honey as an "antifreeze" in automobile radiators.

This leaflet is an offense to honest advertising and can only discredit the wholesome, popular food it would promote. The public is seriously misled by false advertising of the type represented by this leaflet, which cannot therefore be listed among accepted advertising of the Committee on Foods.

NOT ACCEPTABLE

LITTLE CROW COCO-WHEATS

THE COCOA COATED CEREAL

The Little Crow Milling Company, Inc., Warsaw, Ind., submitted to the Committee on Foods a mixture of farina and semolina lightly coated with cocoa, with added sodium chloride, and flavored with vanilla, called "Little Crow Coco-Wheats, The Cocoa Coated Cereal."

Discussion of Label and Advertising.—The name Coco-Wheats unduly emphasizes the cocoa ingredient, implying that cocoa is in major proportion in the product, whereas it is present only as a flavoring; Cocoa Flavored Farina is a fitting name. Since the added salt and vanilla are not declared, the label implies that the only ingredients are farina and cocoa. The product name should be accompanied by the statement "flavored with salt and vanilla." The public is entitled to know all the ingredients of the foods it consumes.

The label and advertising contain the following statements:

"Little Crow Coco-Wheats. The Cocoa Coated Cereal . . . contains essential elements necessary for infants, growing children or the requirements of adults or invalids. The addition of finest quality cocoa gives not only greater food value but a strong appeal to backward appetites. . . . Coco-Wheats supplies vital energy quickly and easily without burdening digestion. . . . Coco-Wheats is served regularly in many large hospitals . . . rich in vitamins . . ."

This food does not contain *all* "the (nutritional) requirements of adults or invalids," as stated. The chief nutritional or food value is the caloric energy content or fuel energy value and very subordinately the wheat protein. The claim that it "contains essential elements necessary for invalids and growing children" connotes more important and broader nutritional values than actually possessed. Vague claims of this character are misleading and should be replaced by definite statements specifically naming the nutritional or other values to be emphasized. The cocoa content does not significantly add to the food value as incorrectly stated. The article does not "supply vital energy" any more than do usual foods but merely provides simple food fuel or caloric energy. "Vital energy" implies "life energy" and is misleading by connotation. No evidence was furnished indicating that Coco-Wheats is served regularly in many hospitals. Vague alleged claims of use by hospitals deceptively ascribe imaginary special nutritional or therapeutic values to the product. The advertising should specifically state why the food is recommended or for what purpose. The product is not "rich in vitamins" but, to the contrary, is practically devoid of vitamins.

The advertising indicates disregard of fact and resorts to vagaries to suggest deceptively greater values than warranted by fact. Labels and advertising for foods should simply and specifically name the foods and their ingredients, and define their food values in easily understandable terms, in the interest of public welfare and good business competition.

The company was informed of the criticisms and recommendations of the Committee but has not demonstrated willingness to comply. This cereal will therefore not be listed among the Committee's accepted foods.

ACCEPTED FOODS

THE FOLLOWING PRODUCTS HAVE BEEN ACCEPTED BY THE COMMITTEE ON FOODS OF THE AMERICAN MEDICAL ASSOCIATION FOLLOWING ANY NECESSARY CORRECTIONS OF THE LABELS AND ADVERTISING TO CONFORM TO THE RULES AND REGULATIONS. THESE PRODUCTS ARE APPROVED FOR ADVERTISING IN THE PUBLICATIONS OF THE AMERICAN MEDICAL ASSOCIATION, AND FOR GENERAL PROMULGATION TO THE PUBLIC. THEY WILL BE INCLUDED IN THE BOOK OF ACCEPTED FOODS TO BE PUBLISHED BY THE AMERICAN MEDICAL ASSOCIATION. RAYMOND HERTWIG, Secretary.

KRIM-KO'S FIVE-O CHOCOLATE FLAVORED SWEETENED DILUTED SKIM MILK

Manufacturer.—Krim-Ko Company, Chicago.

Description.—Sterilized, chocolate flavored sweetened diluted skim milk containing skim milk, water, sucrose, chocolate and cocoa, tapioca flour, salt and a trace of agar; flavored with imitation vanilla extract.

Manufacture.—The product is prepared by essentially the same procedure as described for Krim-Ko (THE JOURNAL, June 2, 1934, p. 1851).

Analysis (submitted by manufacturer).—

	per cent
Moisture	85.3
Ash	0.6
Fat (ether extract)	0.6
Protein (N × 6.25)	1.6
*Reducing sugars as invert sugar	4.5
*Reducing sugars as lactose	1.1
Sucrose (copper reduction method)	4.2
Crude fiber	0.1
Carbohydrates other than crude fiber (by difference)	11.8
*Caffeine and theobromine	0.02

*Calculated from composition of Krim-Ko's Five-O Drink Base (THE JOURNAL, June 2, 1934, p. 1851) or skim milk.

Calories.—0.6 per gram; 17 per ounce.

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(1) CASSEL'S EVAPORATED MILK
(2) PICKWICK BRAND EVAPORATED UNSWEETENED STERILIZED MILK

Distributors.—(1) Cassel's Stores, Reading, Pa. (2) Kansas City Wholesale Grocery Co., Kansas City, Mo.

Packer.—The Page Milk Company, Merrill, Wis.

Description.—Canned unsweetened sterilized evaporated milk, the same as Page Brand Evaporated Milk (Sterilized, Unsweetened), THE JOURNAL, May 30, 1931, page 1872.

COTTAGE EVAPORATED MILK
FOX RIVER EVAPORATED MILK
PETER PAN EVAPORATED MILK

Manufacturer.—Libby, McNeill & Libby, Chicago.

Description.—Unsweetened evaporated milks.

Manufacture.—The same as Libby's Sterilized Unsweetened Evaporated Milk (THE JOURNAL, June 13, 1931, p. 2037).

Claims of Manufacturer.—See announcement on the advertising of the Evaporated Milk Association (THE JOURNAL, Dec. 19, 1931, p. 1890).

THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION

535 NORTH DEARBORN STREET . . . CHICAGO, ILL.

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SATURDAY, JUNE 23, 1934

THE CLEVELAND SESSION

One of the greatest medical assemblages ever held in this or any other country was the annual session of the American Medical Association in Cleveland last week. The attendance was the largest ever recorded in a city the size of Cleveland. On only three previous occasions, even in larger cities, has the attendance exceeded that of this gathering. More significant than the attendance, however, were the nature and the spirit of the occasion, the interest shown, and the significance of the actions taken by the House of Delegates.

Probably the most important of the resolutions adopted by the House of Delegates were those concerning the principles that are to guide the medical profession in its consideration of new forms of medical practice and the one expressing the unanimous belief of the House of Delegates that only the American Medical Association is entitled to voice the opinion of organized medicine on these topics. The House of Delegates also took many other important actions, which will be regularly considered in THE JOURNAL and which will be made available in the complete report of the proceedings of the House of Delegates, of which publication will begin in this issue.

The scientific sections of the Association were extremely well attended and the discussions lively. Moreover, the General Scientific Meetings attracted large numbers of interested listeners and established the value of such occasions as a form of postgraduate instruction.

The Scientific Exhibit at the Cleveland session was remarkable for its size, its scope, its instructive value and the beauty of presentation. With increasing experience those who participate in the Scientific Exhibit have developed methods of graphic portrayal that make the acquisition of new information a delight. The framing, the illumination and the color of the exhibits aroused general admiration. The special exhibits drew multitudes of interested physicians, and a large number of the papers read in the sections were supplemented by exhibitions of materials extending the knowledge conveyed by the manuscript itself.

The technical exhibits brought together the largest number and variety of industrial organizations catering to the medical profession that have participated in such exhibitions. The exhibitors expressed unanimous commendation of the arrangements made for them and of the manner in which physicians in attendance availed themselves of the opportunities to improve methods of practice by employment of the facilities made available. Furthermore, many exhibitors voluntarily indicated that the returns had been greater in proportion to the outlay than ever before. This may be taken as a sign of the improved economic trend at this time.

The physicians of Cleveland and the state of Ohio surpassed themselves in providing suitable entertainment. The golf tournament of the American Medical Golfing Association included 185 players and the annual banquet was a memorable event. The dinners given by Ohio physicians to the officers and to the House of Delegates of the American Medical Association were not only congenial but also convivial. Many leading physicians held open house during the week. The annual reception for the President was held in one of the most delightful of halls and the music and color of the occasion were brilliant.

As a result, no doubt, of the increasing interest of the public in medical advancement and medical affairs, the press of the country as well as the radio took special interest in the Cleveland session. National broadcasts were made from the meeting as well as many daily local broadcasts. Special correspondents were sent from newspapers in Chicago, St. Louis and New York, and all the great press syndicates were represented by scientific writers who have been attending meetings of the Association for some years.

The Cleveland session will pass into history as a new peak in scientific gatherings.

POLIOMYELITIS IN CALIFORNIA

With the news spreading widely over the United States that there is an increase in the incidence of anterior poliomyelitis in the Los Angeles area, physicians everywhere are being besieged with questions as to whether or not it is safe to travel into that district and as to whether or not the incidence is sufficiently great to be termed epidemic. The number of cases is well beyond the average incidence of infantile paralysis in the community concerned and is therefore of epidemic proportions. No one can say just when the epidemic will reach its peak. The factors concerning the duration of such epidemics are not well established. Some epidemics in southern California, according to information received from the U. S. Public Health Service, seem to extend over longer periods than elsewhere, and the curves have flatter tops than those of other similar areas. This does not necessarily mean a larger number of cases per hundred thousand of population.

The incidence of poliomyelitis is higher than normal for Los Angeles or for any other California district, and it is not considered safe to send a small child into the vicinity. The danger, of course, is small in comparison with the danger from much more contagious conditions, but the danger is definite and should not be assumed if it is avoidable. A child under six years of age falls within the most susceptible age group and for this reason would be subjected to a special hazard if taken from a noninfected area into an infected area. It is, moreover, especially difficult to protect a child against contact with infantile paralysis, since the disease seems to be distributed by carriers, as are also scarlet fever and diphtheria, so that the child might become infected from a person who is apparently well. Epidemiology establishes the fact that infantile paralysis, like epidemic encephalitis, clears up with the coming of cold weather. In the Los Angeles area the first really cool weather may not be expected until November or December.

Considerable agitation is apparent among parents as well as among physicians for mass immunization of the apparently well child, not only in the Los Angeles area but also in San Francisco and in adjacent cities. Whole blood or convalescent serum is suggested for prophylaxis. A survey of the available evidence indicates that neither of these methods has been used to a sufficient extent in well controlled experiments to provide data of value, either in favor of or against its efficiency. In measles, convalescent serum seems to have value, and, with the certain knowledge that antiviral substances for poliomyelitis exist in the serums of adults and of recovered cases, the prophylactic use would seem to be rational and might be given a trial in children who are unavoidably exposed to the epidemic area. However, the period during which such protection might continue from a single injection is not known. If such experiments are made, records should be accurately kept, as the information will be of exceeding value in determining future practice.

THE FUEL OF MUSCULAR WORK

What is the source of the energy transformed in the work of the muscles? The source of the mechanical work of the contractile tissues must be from metabolism. It has long been demonstrated that mechanical work may have little or no effect on protein metabolism. As Graham Lusk, an expert in this field of research, expressed the situation, protein itself may be resolved into dextrose and beta-oxybutyric acid, so that the question of the source of muscular power reduces itself to the consideration of behavior of metabolites of carbohydrate or of fat.[1] Every one admits that carbohydrate usually functions as the fuel of muscular work. Some investigators stoutly maintain that it is the sole immediate source of the energy of contraction and that fat can function in this respect only after it has been converted somehow into sugar. As Gemmill[2] has pointed out, evidence for or against the utilization of fat during muscular exercise in man has been obtained from observations of the respiratory quotient, the blood fats and the acetone substances. The respiratory quotient has been most extensively studied.

Rapport[3] reviewed the literature on the respiratory quotient of the exercising animal. He concluded that the evidence from the respiratory quotient did not justify the belief that carbohydrate alone was oxidized to supply the energy for muscular activity. The interpretation of the significance of the respiratory quotient is difficult at best; so that, according to Gemmill, since there are two ways of interpreting the respiratory quotient, the evidence obtained from this quotient in man during exercise becomes less valid for determining a particular type of metabolism.

At the Johns Hopkins School of Medicine, Gemmill[2] has made a study of the total acetone bodies in the blood of three persons before and after exercise with the subjects on normal and low carbohydrate diets. He mentions the commonly accepted view that the acetone substances in the blood of men on low carbohydrate diets, in starvation and in diabetes come from the incomplete combustion of fat. Therefore, an increase in these compounds resulting from work suggests that there has been an increase in the amount of fat broken down during and after muscular work to supply the energy for the exercise. The exact mechanism for the utilization of this fat cannot be obtained from this type of experimentation, except that it does give suggestive evidence that the fat is oxidized directly and not converted into carbohydrate. Significant changes were not observed following exercise with the persons on normal diets. On low carbohydrate diets, with a general elevation of the acetone substances, a further increase was found after work. The maximal rise in each case was observed two hours after exercise. These experiments suggest that fat is used as such to supply the energy for muscular contraction in man.

1. Lusk, Graham: The Elements of the Science of Nutrition, Philadelphia, W. B. Saunders Company, 1928.

2. Gemmill, C. L.: The Effect of Exercise on the Acetone Bodies in the Blood of Man on Low Carbohydrate Diet, Am. J. Physiol. **100**: 55 (April 1) 1934.

3. Rapport, David: Physiol. Rev. **10**: 349 (July) 1930.

Current Comment

JAMES S. McLESTER, PRESIDENT-ELECT

The President-Elect of the American Medical Association, Dr. James Somerville McLester, comes to office with a distinguished career of service to organized medicine. He was born in Tuscaloosa, Ala., Jan. 25, 1877. He received his A.B. degree from the University of Alabama in 1896 and the M.D. degree from the University of Virginia Department of Medicine in 1899. Then followed postgraduate work at

Göttingen and Freiburg in 1901 and 1902. He became professor of pathology and later professor of medicine in the Birmingham Medical College, holding this position from 1902 till 1912. This period also included postgraduate study in Berlin and Munich during 1907 and 1908. In the World War he acted as major and chief of medicine in the Base Hospital at Camp Sheridan and was promoted to lieutenant colonel in the American Expeditionary Forces, becoming commanding officer of Evacuation Hospital 20 in 1918. During this time he was a consultant in the medical service. In 1919, following the World War, he became professor of medicine in the University of Alabama School of Medicine. The special interest of Dr. McLester has been nutrition. He is the author of many articles on this subject and of books entitled "Nutrition and Diet in Health and Disease" and "The Diagnosis and Treatment of Disorders of Metabolism." He contributed the chapter on the mediastinum in the Oxford System of Medicine and the chapter on syphilis in Cecil's "Textbook of the Practice of Medicine." Dr. McLester was chairman of the Section on Practice of Medicine at the annual session of the American Medical Association in 1920. He served as a member of the House of Delegates from the Section on Practice of Medicine in 1921 and from 1929 to 1933 inclusive. He is a member of the board of regents in the American College of Physicians and also a member of many other scientific medical organizations. In 1929 he became a member of the Council on Medical Education and Hospitals of the American Medical Association, on which he has served continuously since that date. He has been also since 1933 a member of the Committee on Foods of the American Medical Association. Thus, recognition has been given to his learning and leadership. He is a genial and friendly man. In the address that he made to the House of Delegates following his election he expressed his earnest adherence to the principles that must guide the medical profession in its relationship to present economic trends. Through his election the great membership of the American Medical Association in the southern half of our country is again honored.

JAMES S. McLESTER, M.D.
PRESIDENT-ELECT OF THE AMERICAN MEDICAL ASSOCIATION

EPINEPHRINE AND THE UTILIZATION OF SUGAR

Although at present there is evidence that carbohydrate metabolism is influenced to a greater or less degree by the activity of the pituitary, the thyroid, the suprarenal, and the insular tissue of the pancreas, far more is known of the activity of epinephrine and of insulin in this respect than of the other hormones. No sooner was the mode of action of insulin determined than it became plain to physiologists that there exists an antagonism between this substance and epinephrine. The two hormones were contrasted with respect to their influence on blood sugar and on glycogen in the liver. It was shown that an increase in the output of epinephrine occurred after the administration of insulin. Largely through the work of the Coris [1] on epinephrine and glycogen in the liver, the point of view has been emphasized that to a large extent this hormone and insulin exert their antagonistic activity extrahepatically; i. e., in the peripheral tissues. The logical deduction from this conclusion is that epinephrine opposes the utilization of carbohydrate in the tissue. However, a recent study by Soskin, Priest and Schutz [2] throws some doubt on the validity of this view. Making careful measurements of water exchange, blood sugar and volume of blood flow to an isolated mass of muscle tissue, these investigators demonstrated not only that the retention of sugar was not decreased by simultaneous or separate administration of epinephrine but that it was increased over that observed when sugar alone was injected. Furthermore, the output of lactic acid from the muscle accounted for less than half of the retained sugar, a fact that likewise runs contrary to the current conception. In view of the growing interest in the part played by the endocrine glands in metabolism in general, it would appear that further studies in this field are necessary with careful attention to such variables as differences in species of test animal, in sex, in age, and in time interval after administration of the hormone.

1. Cori, C. F., and Cori, Gerty T.: J. Biol. Chem. 79: 321 (Sept.) 1928.
2. Soskin, Samuel; Priest, W. S., and Schutz, W. J.: Am. J. Physiol. 108: 107, 1934.

PROCEEDINGS OF THE CLEVELAND SESSION

MINUTES OF THE EIGHTY-FIFTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT CLEVELAND, JUNE 11-15, 1934

HOUSE OF DELEGATES

First Meeting—Monday Morning, June 11

The House of Delegates convened in the Ball Room of the Hotel Statler and was called to order at 10 a. m. by the Speaker, Dr. F. C. Warnshuis.

Preliminary Report of the Reference Committee on Credentials

A preliminary report of the Reference Committee on Credentials was submitted by the chairman, Dr. J. D. Brook, Michigan, who reported that 102 delegates with proper credentials had registered.

The Speaker, not hearing any objections, declared that the preliminary report of the Reference Committee on Credentials would be accepted.

Dr. J. Newton Hunsberger, Pennsylvania, moved that the House dispense with the roll call. The motion was seconded by Dr. H. B. Everett, Tennessee, and carried.

Adoption of Minutes of Milwaukee Session

The Secretary stated that the minutes of the Milwaukee session of the Association had been printed and put into the hands of all members of the House of Delegates, and that no corrections or amendments had been received, but that a typographic error appeared in the report of the Secretary concerning the number of members reported to the House of Delegates last year. There should have been one thousand more in the official report than was indicated by the figures that were presented.

Dr. H. B. Everett, Tennessee, moved that the minutes of the Milwaukee annual session, with the correction indicated by the Secretary, be adopted. The motion was seconded by Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology, and carried.

The Vice Speaker, Dr. Nathan B. Van Etten, New York, took the chair while the Speaker read his address, which was referred to the Reference Committee on Reports of Officers:

Address of the Speaker, Dr. F. C. Warnshuis

Members of the House of Delegates:

The will of this House of Delegates, expressed through your suffrage, permits me to preside during this annual session. For this renewed expression of your confidence, I am at a loss for terms adequate to the expression of my gratitude. I shall seek to merit your confidence by discharging my duties in a manner characterized by consideration and fairness to every delegate. I am dependent on your assistance to expedite the business that is presented.

This House is the supreme legislative body of our Association. As delegates you are the representatives of your state organization and their members. On you rests full responsibility for action that may be recorded and for the policies and directions that may be affirmed. Whatever may be the national problems of this federacy and of its members, the action that will accomplish their solution must be formulated by you who speak and act for the members of the Association's constituent units. They rightly look and appeal to you to conserve and enhance their collective and individual interests.

The cry today in all avenues of life is for intelligent, achieving leadership. The responsibility for leadership in medicine and our medical relations to the public and to government rests with this House of Delegates. I commit no violence to facts in stating that if, in these days of radical changes in governmental administration and increasing demands of society, our professional interests are subsidized and we surrender our existent relationship to society, the fault descends in a large measure on this House for having failed to mobilize all our resources to obstruct such an untoward condition and for having failed to undertake the defeat of those who seek to invade our field for the control of our professional services. I have stressed this at previous sessions. I do so again because of a deeper realization that grave changes in medical practice are being proposed and advanced.

REFERENCE COMMITTEES

At the close of the Milwaukee session I was concerned over the fact that by reason of the extended hearings before Reference Committees there was little or no discussion on the floor before a vote on a report, a resolution or a motion was recorded. A delegate's report in a state journal conveyed the impression that "Machinery was well greased and the steam roller working." Your Speaker desires to correct such a wrong impression.

The procedures of the House prescribe that all reports and resolutions shall be referred to proper Reference Committees. Reference Committees shall hold hearings at which any delegate may appear and discuss a report or resolution. At these hearings, mooted points are clarified and dependable information imparted. The Reference Committee formulates its recommendations, which are presented at a session of this House for adoption. Should any delegate be not in accord with the Reference Committee's report, the opportunity is given him to present his views before a vote is taken. If there is no discussion when the Reference Committee's report is presented, it is assumed that delegates have attended the hearings and concur in the report.

These are not "machine" or "steam roller" tactics. They have been formulated by reason of past experiences in order to enable this House to be expeditious in disposing of the large volume of business that arises annually. There is no gag rule. Every delegate has the right to and will be given the floor to ask a question or record his views on any question that is before the House for consideration.

Reference Committee hearings are announced and posted. Your Speaker urges that delegates appear before these committees for discussion and inquiry.

Your Speaker further recommends that chairmen of Reference Committees might well offer comments on the points raised during the hearings when presenting those portions of their reports dealing with major problems or policies of the Association.

Your Speaker also recommends that consideration be given to the desirability of requesting the Association's Secretary to supply certain Reference Committees with a competent stenographer to take the minutes of a hearing and to whom the chairman can dictate his report. This would relieve chairmen of exacting burdens and conserve their time.

In designating delegates to serve on Reference Committees, your Speaker sincerely endeavors to give just representation to every state. Consideration is also given to the representation that a state has on councils, bureaus and the Board of Trustees.

CREATION OF COMMITTEES

Your Speaker recommends that the By-Laws be amended so as to abolish the Committee on Rules and Order of Business. There has been no necessity for this committee during the past ten years.

The recommendation is made that suitable amendments be adopted to create a Reference Committee on Medical Economics and one on Nominations, the Committee on Nominations to be empowered by a By-Law to nominate three Fellows for the office of President-Elect and three to succeed those trustees whose terms expire, and to make its report at the Tuesday session of the House of Delegates. Additional nominations may of course be made from the floor at the time of election.

ENCOURAGEMENT TO VISITORS

Your Speaker has taken the liberty to suggest to your Secretary that announcement be made in the BULLETIN, THE JOURNAL and the program that sessions of the House of Delegates are open to Fellows and to urge them to attend your deliberations. Many Fellows are under the impression that you sit in closed sessions. On many occasions, Fellows have stated that they wished they could attend your sessions and were greatly surprised when informed that they are more than welcome.

A clearer understanding of organizational problems and activities will result if Fellows become more intimately familiar with the functionings of their House of Delegates. To that end the suggestion is made to encourage attendance by those whom you represent and if need be that the provision for the accommodation of visiting observers be enlarged.

DECEASED MEMBERS

And now, conforming to your action, it becomes my duty to request you to pause to pay tribute to those Fellows who have served in this House, and whose life's activities ended during the past year. As I announce their names there will come to each of you some thought, some memory related to their services and your association with them. These memories, not transmissible in words, record our enduring tribute.

With a spirit of reverence and memory I now officially record in our records the departure from life of the following Fellows who have served in this House: Lewis H. Adler Jr., Pennsylvania; W. F. Bacon, Pennsylvania; William R. Bathurst, Arkansas; I. C. Chase, Texas; A. L. Chute, Massachusetts; LeRoy Crummer, Nebraska; John S. Davis, Virginia; A. D. Dunn, Nebraska; C. F. Eikenbary, Washington; E. F. Howard, Mississippi; John Edward Lane, Connecticut; Edmund D. Martin, Louisiana; Miles F. Porter, Indiana; George L. Richards, Massachusetts; J. F. Schamberg, Pennsylvania; W. Blair Stewart, New Jersey; D. E. Sullivan, New Hampshire; Claude A. Thompson, Oklahoma, and George B. Young, U. S. Public Health Service.

Reference Committees

The Speaker resumed the chair and appointed the following reference committees:

SECTIONS AND SECTION WORK

Isaac Abt, Chairman ..... Pediatrics
W. R. Steiner ..... Connecticut
C. W. Roberts ..... Georgia
A. R. McComas ..... Missouri
W. H. Seemann ..... Louisiana

RULES AND ORDER OF BUSINESS

Mather Pfeiffenberger, Chairman ..... Illinois
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W. A. Bates ..... South Dakota
E. L. Skidmore ..... Utah
R. A. Fenton ..... Oregon

MEDICAL EDUCATION

Irvin Abell, Chairman ..... Kentucky
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Fred Moore ..... Iowa
J. F. Hagerty ..... New Jersey
W. A. Cook ..... Oklahoma

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J. W. Burns ..... Texas
R. L. Green ..... Illinois
R. F. Cody ..... Massachusetts

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R. L. Sensenich ..... Indiana
E. A. Hines ..... South Carolina
H. C. Macatee ..... District of Columbia
J. N. Hunsberger ..... Pennsylvania

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Wells Teachnor Sr. ..... Ohio
J. R. Bless ..... West Virginia
W. D. Johnson ..... New York

REPORTS OF BOARD OF TRUSTEES AND SECRETARY

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W. H. Mayer ..... Pennsylvania
M. L. Stevens ..... North Carolina

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C. B. Reed ..... Illinois
Randolph Winslow ..... Maryland
James M. Acher ..... Mississippi

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G. A. Leitner ..... New York
H. C. Frontz ..... Pennsylvania
Brien King ..... Washington

Address of President Dean Lewis

The Speaker presented the President, Dr. Dean Lewis, Baltimore, who delivered the following address, which was referred to the Reference Committee on Reports of Officers:

Mr. Speaker and Members of the House of Delegates:

It seems almost needless, perhaps rather presumptuous, on my part to express my appreciation of the honor that you conferred on me two years ago when you made me President-Elect of the American Medical Association in New Orleans. One must accept such an honor with humility, for one must realize that one cannot discharge efficiently the duties that one assumes and must be called on frequently to make decisions that will not be approved.

During these two years the educational opportunity has been great, for I have had the privilege of attending many national, state and county gatherings. I have never had greater pride in the medical fraternity, for they have gladly assumed the responsibilities which they have been forced to meet during the depression. They have assumed these without complaint, and it is without any attempt at patronizing to say that I have known of no organization, either lay or professional, that has rendered such service without complaint. The health of the people has been maintained at a high level. Whether or not the profession is to be given entire credit for this may be a matter of dispute, for it seems that the wind is always tempered to the shorn lamb, for statistics which have been gathered for a number of years have shown that the mortality and morbidity during periods of depression are always low. Social workers apparently are not fully conversant with these facts for there is a tendency on their part to credit this state of health to their unremitting, untiring and self-sacrificing efforts to ameliorate suffering and prolong life, little realizing that Providence works in strange and wondrous ways.

These are changing times, however, and the medical profession has been accused from time to time of not keeping up with the social and economic advances. Our severest critics seem to fail to realize that at any and all times the medical profession has always been the vanguard of the troops which

seek to prevent the development of disease and to care for it when it has once developed. The medical profession has no apologies or excuses to make, for cities could not have survived epidemics, international trade routes could not have been established, and the span of life would not have been long enough to justify the pangs of labor. It is sometimes a wonder to me why contraceptive measures were not discussed and introduced years ago when the span of life was so short that the futility of birth must have been frequently discussed.

During the past year I have visited many societies and I find that the profession is troubled. They should realize that they provide the essential part of the care, and without their untiring effort and sacrificing service there would be no medicine, for medical knowledge demands the longest and most technical training of any profession. There would be no paths to follow and we would be lost on the unlighted, uncharted path of ignorance.

Society has been urged to place restrictions on medical practice on the solicitations and frequently the demands of the medical profession. The state in this country which has probably the best medical practice act had a wise governor who was sympathetic with the medical profession and had enough wisdom to select a committee of reputable physicians who wrote an act which he accepted without revision or reservation. This act is in strange contrast to that operative in many states, in which the politicians or laymen have tried to determine for a highly technical profession who should be qualified and how, notwithstanding the fact that fads, fanatics, quacks and cults flourish and propagate their kind in such states.

We should be concerned today with the quality of medical care. Cheap medicine is often the most expensive, and what is called expensive is often the cheapest, for through the quality are attained the objects of medical practice—decrease in mortality, lessening of morbidity and shortening of the period of disability.

One of the heaviest duties now resting on the medical profession is to raise and maintain the quality. If the quality of medical care is to be high, we must have vision and exercise judgment at the beginning, and when I say beginning, I mean when the student is admitted to the medical school. Character should have a higher assessed value than marks alone. The matriculation fee should not be so high that only the children of the well-to-do can enter; neither should it be so low that all may enter.

The quality of medicine is largely determined during the four years of the medical course but must be maintained by wise planning afterward. As I have stated before, I believe that there should be more opportunities for doctors who do not specialize. On leaving the medical schools not infrequently these men never have an opportunity to take patients to the hospitals or to associate with men whom they admired, and they are denied the chance to study gross pathology, which still remains the foundation stone of medicine. The greatest clinicians have had a sound pathologic training and when they examine and study a case they always have memories of a case which they have seen before. The best diagnoses are made on correlated clinical and pathologic observations. To furnish the material with diagnosis, verified by operation or autopsy, is one of the hardest tasks in maintaining the quality of medical care and to the solution of which we should give most serious attention.

A relatively small percentage of doctors attend medical meetings. In order to keep these doctors abreast of the newer ideas, graduate courses of instruction should be given. I was in Idaho last September and the members of the state medical society requested that some of the scientific assembly be sent to them or that doctors be sent from the central office to instruct them in the latest diagnostic procedures. Such attempts to give courses have been undertaken by a large number of medical societies and I have been particularly impressed by the plan of the Medical Society of the State of Pennsylvania, which has been supported so enthusiastically and successfully by its president, Dr. Guthrie. I believe that in the not too distant future a study of the possibilities of such graduate instruction should be undertaken by a committee of this House, or by the Council on Medical Education and Hospitals, which already has about all the problems that it can successfully handle.

We must preserve the idea that medicine is a profession and not a business, if we are to maintain quality. We must all concede that any one practicing medicine should be able to make a living and I am sorry to say that not infrequently the higher the ideal and the squarer the methods, the less the living.

The medical profession requires the good will and respect of the people. I know of nothing that makes people more suspicious of those engaged in the practice of medicine than the expert witness. Lay people must think that medicine does not even approach an exact science, when two men of equal distinction in medicine will give diametrically opposite statements to questions that are asked at a trial.

Members of the bar realize the futility of much expert testimony, and I would like to see the bar association approached by a committee appointed by the House of Delegates to see whether some method of procedure could be devised by which the expert witness could be eliminated. A reference board, appointed by some competent authority or commission, would probably be most satisfactory, for it could examine in camera the testimony and the documents and hand down the decision, thus avoiding the amazement concerning the conflicting statements of equally capable men.

If the quality of medicine is to be raised, control of methods that are practiced must be strictly and carefully applied. Hasty publication should be discouraged. Publication should be based on accumulated knowledge.

There are two disturbing factors in medicine. First, many doctors and lay people condone advertising. Lay people should realize that advertising in medicine is pernicious, for advertising may wilfully deceive. Commercialism and advertising are among the most demoralizing things in medicine.

As a result of the depression, doctors have had a bad time financially and they may easily be exploited by lay people, both in hospital and in health insurance. The fate of the people as regards medicine will be determined in the ward, the home and the research laboratory.

I look with confidence to the members of the House of Delegates for the solution of the many problems that confront the medical profession. Those questions should be settled by the critical analysis of the facts and data presented and not influenced by passion or the emotions which the problems of the sick so often arouse.

We should remember that it is easy to say that the people are not getting sufficient medical care, but how shall it be provided? Those who practice medicine are always being told how to do it, but those who criticize them have usually had no experience in doing it and couldn't do it at all if called on to do so. We have the right to be proud of our achievements and we can best meet every challenge directed at us by carrying on without fear and with vision.

Address of President-Elect Walter L. Bierring

The Speaker presented the President-Elect, Dr. Walter L. Bierring, Des Moines, Iowa, who presented the following address, which was referred to the Reference Committee on Reports of Officers:

Mr. Speaker and Members of the House of Delegates:

During my training year as President-Elect, I have been more and more impressed with the basic spirit of democracy that governs our association. With its ever widening influence, scientific and professional, the sovereign right of the individual member still reigns supreme, and this representative body, the House of Delegates, continues as the arbiter of the destiny and policies of organized medicine in America.

It needs no words of mine to say that this will be a historic session, because you are called on to consider medical problems such as have not been encountered before.

There are those without our Association who would speak with authority and much concern of our welfare regarding the solving of these problems. While we gladly listen for guidance from every available source, we are confident and deeply conscious of our ability to put our own house in order.

With the evolution in technology, the development of industry and the political economic changes, modern society has come to expect a new order of medical service, different from that demanded a generation ago.

In all time medical practice has influenced and gone hand in hand with the advancement of medical education. In this changing order you cannot therefore disassociate the one from the other, and with far sighted wisdom you have already instituted through the Council on Medical Education and Hospitals a resurvey of all the medical schools of this country. No doubt this action was determined as the result of careful actuarial and factual studies, which tell but the one story—that each year more physicians are being graduated than present society can adequately support.

The time has arrived when this association must recognize its duty to the future welfare of American medicine and attack this problem with all the facilities at its command.

What changes such a resurvey may portend in the present scheme of medical education cannot be foretold, but that it will require courage of a high order to mold and influence the educational forces to meet this challenge no one will deny. It should therefore enlist your fullest cooperation and support toward furthering the work of the Council during the coming year.

Your second great problem is concerned with the changing order of medical practice. Well meaning nonmedical advisers have brought to you a variety of artificial remedial plans that are supposed to solve every phase of the problem. We well know that no single "rule of thumb" proposal or method will provide the remedy. The rendering of efficient and complete medical service is still largely governed by the individualistic relation of physician to patient. Furthermore, the practice of medicine is a profession and not a business or a trade.

It is also well recognized that the practice of medicine in the crowded areas of New England and along the Atlantic seaboard is far different from that required in the rural and agricultural sections of the Mississippi Valley. Likewise, the activities of the medical practitioner in the Southern states are not the same as those in the wide open spaces of the Dakotas and other Western states.

This association is indeed fortunate in having its Bureau of Medical Economics under the direction of Dr. Leland, who by personal contact has familiarized himself with the problems of medical practice throughout the length and breadth of the land and is able to present to the House of Delegates a very comprehensive picture of existing conditions. When these are further related to his sound conceptions of economic philosophy, they should be a distinct and valuable aid in your labors.

Again through the medium of a great journal and a wide awake editor and general secretary, you have been kept constantly conversant with the problems that concern the individual member and practitioner in this country.

It is sad to relate, that mighty forces have been at work to sow the seeds of discontent in the ranks of organized medicine and to destroy the faith in that leadership which is based on the sacred traditions of sacrifice and devotion to the idealism of medical service.

Would that I could bring to you the full force of the dominant words contained in the presidential address presented recently before two state medical societies, both general practitioners from the plains country, in their ringing appeal, "Stand by the American Medical Association and all will be well."

From all over this broad land the doctor looks to you, members of the House of Delegates, in fullest faith and confidence, not to solve the problem all in a day, but in your wisdom and in the spirit of unity and solidarity to point the way for each to follow gladly.

Out of the land of drought, which has tried the very souls of men, they come with the simple prayer "Give us but a little rain and we will carry on stronger than before."

REPORTS OF OFFICERS

Report of the Secretary

Dr. Olin West then presented his report as Secretary, which was referred to the Reference Committee on Reports of Board of Trustees and Secretary.

Report of Reference Committee on Credentials

Dr. J. D. Brook, Chairman, moved that Dr. Walter Schulte be seated as delegate from Utah, since neither the delegate nor the alternate from that state could be present. The motion was seconded by Dr. Mather Pfeiffenberger, Illinois, and carried.

Report of the Board of Trustees

Dr. J. H. J. Upham, Chairman, presented the report of the Board of Trustees, which was referred to the Reference Committee on Reports of Board of Trustees and Secretary, with the following exceptions: The portion dealing with the Bureau of Legal Medicine and Legislation was referred to the Reference Committee on Legislation and Public Relations; that dealing with the Bureau of Health and Public Instruction was referred to the Reference Committee on Hygiene and Public Health, and that dealing with the Bureau of Medical Economics was referred to the Reference Committee on Medical Economics.

Report of the Judicial Council

Dr. George E. Follansbee, Chairman, presented the report of the Judicial Council, which was referred to the Reference Committee on Reports of Officers.

Report of the Council on Medical Education and Hospitals

General Merritte W. Ireland, Washington, D. C., presented the report of the Council on Medical Education and Hospitals, which was referred to the Reference Committee on Medical Education.

Report of the Council on Scientific Assembly

Dr. Frank H. Lahey, Chairman, presented the report of the Council on Scientific Assembly, which was referred to the Reference Committee on Sections and Section Work.

Report of the Committee on Legislative Activities

Dr. E. H. Cary, Chairman, presented the following report of the Committee on Legislative Activities, which was referred to the Reference Committee on Legislation and Public Relations:

Mr. Speaker and Members of the House of Delegates:

Your Committee on Legislative Activities has been consistently engaged in defending the position of the American Medical Association, as formulated by this distinguished body in previous sessions. For the sake of brevity we will discuss only veterans' legislation and call your attention to the report of the Board of Trustees, which recounts some of the other work of this committee.

You recall that during the preceding national administration the medical profession opposed the continued building of veterans' hospitals which were to be used for the care of veterans who were not disabled during the World War.

In 1931 your committee, with Dr. C. B. Wright as chairman, met in Washington. At this time, in company with Drs. West, Woodward, Shoulders, Johnson and Meyerding and representatives of the American Hospital Association, we made known the medical point of view to the leaders of the American Legion in Washington, to the officials of the Veterans' Bureau and to members of the national Congress. We conceded the need of veterans' hospitals to care for nervous and mental diseases and did not oppose government hospitals for the care of veterans with advanced tuberculosis.

Later Dr. W. C. Woodward and I, in cooperation with representatives of the American Hospital Association, appeared before a special joint committee appointed by both houses of Congress and presented many facts concerning the medical profession and its relation to hospitalization, particularly stressing the ultimate effect which an increased hospital construction program would have on our profession.

From our contacts, we came to believe that influences were being developed which would successfully oppose any plan that required the government to continue building hospitals and broadening hospital gratuities to an ever increasing number of veterans without service disabilities. We were particularly insistent that those financially able to care for themselves should be treated at home by their home physicians. Attention was called to the abuse of the hospitalization privilege by the financially independent veteran, who was frequently transported long distances at governmental expense and paid approximately $85 monthly while in the hospital, rendering it very difficult

for the doctor to cure him. Attention of the committee was also directed to the demoralizing effect on the recipient and the welfare of the medical service in a locality, this medical service being made more difficult to sustain, and the withdrawal of this support from the medical service in a given community, thereby affecting seriously the future health and happiness of large groups of our citizens.

The present administration publicly expressed many views on this subject which were in harmony with the principles adopted by the members of this House of Delegates. The administration evidently recognized that there had been no definite policy established relating to veterans of the late war and that many abuses were the outgrowth of haphazard legislation and Veterans' Bureau regulations.

The need of a balanced budget made necessary an economy program that included a definite policy regarding veterans. We were greatly comforted to find that the present administration, supported by the director of the Veterans' Bureau, contemplated no further building of hospitals and outlined a policy which, as stated before, we found in harmony with our views.

In February 1934 the chairman of your Legislative Committee, with the two other members, Drs. C. B. Wright and F. S. Crockett, met Drs. Olin West and W. C. Woodward in Washington to oppose the Reed amendment, which comprised the four-point program of the American Legion. We were particularly interested in the second point of the Legion program which related to hospitalization and which, as written, would have required only a written statement from the veteran that he was financially unable to pay for needed care. We could see that if the law permitted an unsupported statement it might lead to multiplied abuse of hospital and transportation privileges.

Your committee was in Washington for four days, making many contacts, broadening our acquaintance among members of both congressional houses, and developing friendships here and there which we hoped would be useful in preventing legislation not in the interest of the people and detrimental to the medical profession.

Unfortunately, some weeks following our activity in Washington, House of Representatives Bill 6663, the Independent Offices Appropriation Bill, was amended combining two issues, one of which concerned the veterans. This readily became a political measure of profound significance and it was not long until it became a law (March 28, 1934) after having been passed by the House of Representatives and the Senate over the President's veto.

Section 29, of the law reads as follows:

Section 29, Section 6 of Public Law Number 2, Seventy-third Congress, as amended by Public Law Numbered 78, Seventy-third Congress, is hereby amended by adding hereto the following proviso:

"Provided, that any veteran of any war who was not dishonorably discharged, suffering from disability, disease, or defect, who is in need of hospitalization or domiciliary care, and is unable to defray the necessary expense therefor (including transportation to and from Veterans' Administration facility), shall be furnished necessary hospitalization or domiciliary care (including transportation) in any Veterans' Administration Facility, within the limitations existing in such facilities, irrespective of whether the disability, disease, or defect was due to service. The statement under oath of the applicant on such form as may be prescribed by the Administrator of Veterans' Affairs shall be accepted as sufficient evidence of inability to defray necessary expenses."

This law made several changes. It made statutory certain privileges already granted by executive order. It limited, as you have seen, hospitalization to those who were willing to make oath as to their inability to pay for medical care. A very important feature of the new law is the discontinuance of money payments to the veterans while in the hospital.

As you know, the American Medical Association has consistently taken the position that the federal government ought not to provide medical, nursing and hospital services for veterans who are able to provide such services for themselves for injuries and diseases in no way related to military service.

The present law goes beyond anything heretofore contemplated in that it provides for free care for nonservice disability. Under the World War Veterans' Act, 1924, under which the gross abuse of medical, nursing and hospital privileges for veterans, rich and poor alike, suffering from nonservice diseases and injuries grew up, hospitalization was absolutely and unqualifiedly discretionary with the administrator of veterans' affairs, except so far as related to certain named chronic diseases.

The World War Veterans' Act, 1924, section 202, subsection 10, provided:

The Director is further authorized so far as he shall find that existing Government facilities permit, to furnish hospitalization and necessary traveling expenses to veterans of any war, military occupation, or military expedition since 1897, not dishonorably discharged without regard to the nature or origin of their disability: Provided, that preference to admission to any Government hospital for hospitalization under the provisions of this subdivision shall be given to those veterans who are financially unable to pay for hospitalization and their necessary traveling expenses.

If under the proviso set forth above, any effort was ever made to classify applicants for hospitalization at the expense of the taxpayers generally, in the order of the ability of the applicants to pay for medical, nursing and hospital services, it was never apparent. As a matter of fact, veterans themselves resented the inquiry into their financial resources and any implication that hospitalization at the expense of the taxpayers generally was given them because of their need and not as a matter of absolute right. It was under this strictly permissive clause in the act of 1924 that the hospital building program of the Veterans' Administration, costing tens of millions of dollars, developed and was carried into effect.

From our experience in the past we hope that the Veterans' Bureau will be able to resist prescribing a form which would liberalize the amended law beyond interpreting the oath to mean that the veteran is in actual need.

We certainly must see that the regulations will make it extremely difficult for a veteran to accept charity when he is able to pay something to his home doctor and community hospital for services required. We should oppose a loose construction of law which would enable a veteran to escape his civic responsibility.

Can we not assume that the majority of veterans will agree with the citizenship generally that this law should be interpreted for the needy and that an oath to the contrary should not be lightly regarded?

Our attention has been called to the plan now in effect in Illinois. Dr. Fredrickson in collaboration with Dr. T. B. Williamson has organized a medical commission composed of district, county and post surgeons of the Illinois Department, American Legion. This commission acts as advisers to the Rehabilitation Committee in the interests of the ex-service men. Its great success has been in improving this service while preserving the worth while ideals of the medical profession. Since all problems involving compensation are medical problems, it is to the best interest of the ex-service men and the medical profession that this service be rendered by doctors who have a broad understanding of all the interests involved. An adoption of this Illinois plan by other legion departments would promise much for a closer cooperation between these two great organizations.

If we perform our full duty, and as individuals work faithfully, we shall develop a strong sentiment in favor of rendering governmental aid where it is actually needed. No one will be better able to bring about cooperation than the post surgeon.

For the present there has been no effort to bring about increased hospital facilities, and without an increase of such facilities the evil effect on the profession will lessen, because many of these hospitals will be diverted into domiciliary homes.

On the other hand, if the oath required by the law, wherein the veteran swears his inability to defray necessary expenses, is treated lightly we shall then be confronted with a serious situation. We should now help to create a sentiment of merited scorn for the veteran who is willing to cheat and accept gratuities from his government which is already burdened with indigence rampant in every direction. This sentiment must be widespread or a new program of hospital building will be launched to meet the demand from sources able to pay for medical care.

We should encourage those fine leaders in the American Legion who do not desire to further a program which is morally and financially destructive to the American people and disastrous to the voluntary hospitals and to the medical profession.

In closing, we would like to commend the medical leaders of the states who have influenced rather definitely their represen-

tatives in Washington. At the head of this list comes Virginia, whose representatives, we are glad to report, supported the veto of the President 100 per cent.

We are convinced that if medical men throughout the country would become interested in the candidacy of those who, regardless of party, hold views in harmony with our profession it would not be long until we would have in Congress a very positive influence.

Such influence cannot be created over night. It can be greatly developed at this season and definitely crystallized in the November elections . . . if the members of the medical profession will rally to their duty.

No legislative committee can be stronger than the will of the profession and this professional will to stand together and fight the battles for the future of medicine. This sentiment must be inculcated into the minds of every doctor in this land.

We firmly believe that it requires persistent effort on the part of the leaders of every state in presenting this problem to each and every unit of the national organization.

If our profession is to be effective in state legislation and in the halls of Congress, politicians must learn of our solidarity, of our deep interest in the progress of the science of medicine and of our determination to preserve the integrity of its application in the interest of human beings, all of which makes it essential that we protect the welfare of the profession as a whole so that its dignity and its rights and privileges shall be preserved.

Respectfully submitted.

E. H. CARY, Chairman.
F. S. CROCKETT.
C. B. WRIGHT.

NEW BUSINESS

Resolution Authorizing Section on Radiology to Invite Fifth International Congress of Radiology to be Held in America

Dr. Albert Soiland, Section on Radiology, presented the following resolution, which was referred to the Reference Committee on Sections and Section Work:

WHEREAS, The International Congress of Radiology, which convenes every three years, has already had three such meetings abroad: in London in 1925; in Stockholm in 1928; in Paris in 1931 and now in Zurich in 1934; and

WHEREAS, The radiologists of the United States desire to invite the European radiologists to America for the 1937 International Congress; and

WHEREAS, In the opinion of members of the Section on Radiology of the American Medical Association, such an international meeting would at this time engender a national good feeling and would be of high value to scientific radiology; be it therefore

Resolved, That the House of Delegates of the American Medical Association authorize the Section of Radiology to cordially invite the fifth International Congress to be held in America at such time and place as may be decided on by the International Committee of the Fifth Congress of Radiology.

Resolutions on Exploitation of Roentgenologists in Hospitals

Dr. Albert Soiland, Section on Radiology, presented the following resolutions, which were referred to the Reference Committee on Medical Economics:

WHEREAS, It has been reported to the officers and members of the Section of Radiology of the American Medical Association that an intolerable condition exists between certain otherwise acceptable hospitals and their departments of radiology, and

WHEREAS, It is known that in several such hospitals the business management does the collective bargaining for x-ray business with staff members and outsiders to the detriment and professional and financial loss of their staff roentgenologists, and

WHEREAS, Such practice is not only unethical but places such hospitals on a direct competitive medical practice basis with their respective roentgenologists, which practice has been declared illegal in several states, and

WHEREAS, The practice of roentgenology or radiology is *ipso facto* the practice of medicine and cannot be separated therefrom, be it therefore

Resolved, That the House of Delegates of the American Medical Association go on record as opposing the exploitation of members of their own body in the manner outlined; and be it further

Resolved, That the House of Delegates of the American Medical Association in session duly assembled orders this resolution to be referred to the Council on Medical Education and Hospitals for the study and formulation of plans tending to the abatement of these highly unprofessional and obnoxious evils.

Resolutions on State and Federal Relief Committees

Dr. Ralph A. Fenton, Oregon, presented the following resolutions, which were referred to the Reference Committee on Legislation and Public Relations:

1. *Resolved*, That each state and federal relief committee engaged in the apportionment of federal relief funds shall include a physician among its members.

2. *Resolved*, That no schedule of fees for medical services to indigent beneficiaries of federal relief funds shall be approved by state relief committees without the approval of the state medical society concerned.

The governor of the state of Oregon has appointed Dr. R. L. Benson, at the request of the Oregon State Medical Society, to the state emergency relief committee.

Resolution Approving Aims and Purposes of the Society for the Prevention of Asphyxial Death

Dr. George W. Kosmak, New York, presented the following resolution, which was referred to the Reference Committee on Hygiene and Public Health:

WHEREAS, It is now accepted that asphyxia plays a wider rôle than was formerly understood in death from other causes than mechanical suffocation, and

WHEREAS, The total toll of all asphyxial deaths is large, and

WHEREAS, It is known that many such deaths could be averted by prompt and proper use of modern measures and equipment for the relief of the element of asphyxia, and

WHEREAS, The Society for the Prevention of Asphyxial Death has been organized for the purpose of saving lives that would, without up-to-date management, be lost because of failure to relieve asphyxia, and

WHEREAS, That society has the approval of leaders in medical thought and administration, therefore, be it

Resolved, That the Medical Society of the State of New York approves the aims and purposes of the Society for the Prevention of Asphyxial Death and instructs the delegates to the House of Delegates of the American Medical Association to sponsor a similar resolution at the next meeting of the American Medical Association.

Nomination for Honorary Fellowship

Dr. Arthur H. Curtis, Section on Obstetrics, Gynecology and Abdominal Surgery, presented the following nomination, which was referred to the Council on Scientific Assembly:

The Section on Obstetrics, Gynecology and Abdominal Surgery instructs me to place in nomination for Honorary Fellowship the name of Howard Atwood Kelly, Baltimore. I take pleasure in nominating Dr. Kelly for Honorary Fellowship.

Resolutions Opposing the Exploitation of Drugs, Remedies, etc., Over the Radio

Dr. C. S. Skaggs, Illinois, introduced the following resolutions, which were referred to the Reference Committee on Hygiene and Public Health:

WHEREAS, The health of the citizens of the United States constitutes the greatest asset of the nation, and the responsibility of conserving the health of the citizens and restoring them to health in times of illness reposes in the medical profession, and,

WHEREAS, This responsibility is very great, as is evidenced by the high educational and professional standards which physicians are required to meet in the various states of the Union before being permitted to diagnose disease and treat the sick, and,

WHEREAS, Satisfactory and safe service of this type can only be rendered after a long and careful study of the causes and symptoms of disease, and that these causes and symptoms can only be determined after an interview with and physical examination of the patient, and,

WHEREAS, No rational or safe treatment can be decided on and carried out under circumstances other than those above set forth without danger to the life or health of the patient, and,

WHEREAS, For many months past the radio broadcasting companies of the United States have through their various broadcasting stations permitted the exploitation of many drugs, preparations, "patent medicines" and so-called cures, to the radio audiences of America, and,

WHEREAS, It has been well established that some of the drugs, preparations and "patent medicines" so exploited are dangerous in the hands of the layman, others are of doubtful value, and in practically all instances their value for the relief of the symptoms and conditions for which recommended have been overstated and are misleading to the public, and,

WHEREAS, The symptoms and conditions for which these drugs, preparations and "patent medicines" are recommended may be, and frequently are, indications of serious conditions calling for careful study on the part of a well qualified physician in order that a correct diagnosis may be made, and the proper treatment instituted before the disease reaches an advanced stage, and,

WHEREAS, Radio broadcasting is under the control of the Federal Radio Commission and the radio is being used to broadcast nonsupportable claims and statements regarding a large number of drugs and preparations for the treatment of human ailments; therefore, be it

Resolved, That the American Medical Association is opposed to the advertising, recommending or in any way exploiting over the radio

any preparations, remedies, medicines or appliances for the treatment of human ailments, and that a copy of these resolutions be forwarded to the Federal Radio Commision with a request that in the interest of the health of the citizens of the United Staes they exercise their authority to discontinue such advertising over the radio. Be it further

Resolved, That physicians use such influence with their cooperation in sending protests to the Federal Radio Commission and to broadcasting stations against misleading and unwarranted medical advertising.

Resolution Requesting Appointment of Committee to Contact Leaders of Organized Labor

Dr. R. L. Sensenich, Indiana, presented the following resolution, which was referred to the Reference Committee on Medical Economics:

WHEREAS, The legislative program for consideration of the next congress will no doubt include prospective measures of social insurance, and

WHEREAS, There are those who strongly favor the including in this program the enactment of legislation creating some form of sickness insurance, and

WHEREAS, Ill advised legislation would harmfully affect the group of individuals to whom sickness insurance would be offered, as well as the medical profession, who would be required to provide the service and,

WHEREAS, A review of the history of the creation of sickness insurance as recently reported by the Bureau of Medical Economics of the American Medical Association indicates that the establishment of sickness insurance in Europe has frequently been actuated by political motives or economic purposes, not giving full consideration of the best interests or wishes of the groups involved, and in no country have the labor unions led a demand for sickness insurance, and,

WHEREAS, In the present period of readjustment of relationship of employer and employee, under guidance of the state, the demands of those who will speak for the body of millions of organized labor will be an all important factor in determining the shape any such legislation will take, be it therefore

Resolved, That the Board of Trustees be requested to appoint a committee whose duty it shall be, at the proper time, to contact the leaders of organized labor, to learn the attitude of the group they represent, and in conference with them to present the medical factors involved.

R. L. SENSENICH.
F. S. CROCKETT.
D. F. CAMERON.
H. G. HAMER.

Resolutions on Advising Broadcasting Systems Concerning Advertising of Proprietary and Household Remedies

Dr. Orrin S. Wightman, New York, presented the following resolutions, which were referred to the Reference Committee on Hygiene and Public Health:

WHEREAS, The various broadcasting stations are being used by some drug and "patent medicine" manufacturers to exploit and make exaggerated and false claims for their products to the serious danger of public health, be it

Resolved, That the Medical Society of the State of New York go on record as favoring a central national clearing bureau of the medical profession which shall act as a reference committee to confer and advise the broadcasting systems as to the propriety of accepting commercial programs advertising various proprietary and household remedies. Be it also

Resolved, That the delegates of the Medical Society of the State of New York to the American Medical Association be instructed to submit this resolution and urge its adoption by that body.

Resolutions on Inspection of Hospitals

Dr. Burt R. Shurly, Section on Laryngology, Otology and Rhinology, presented the following resolutions, which were referred to the Reference Committee on Medical Education:

WHEREAS, Hospitals have been inspected by laymen without authority who represent, in some instances, the lower order of government official, who make these inspections with reporters to fill the papers with untrue misstatements of fact;

WHEREAS, Hospitals should be inspected only by duly qualified and authorized persons representing government engineering, sanitary and health departments and standardized committees of the American College of Surgeons, and those otherwise qualified for this duty;

WHEREAS, Incompetent and unqualified medical men who are not members of the county societies are often appointed as city and county physicians and as such take on themselves the duty of hospital inspection and the publication of their findings, which are often misleading if not in direct contravention of facts, and do this from personal and political motives not in accord with public interest and welfare, and as the Council on Medical Education and Hospitals has a trained staff of competent and experienced men; therefore, be it

Resolved, That the Council on Medical Education and Hospitals be requested to furnish government officials with a list of properly qualified persons on request with the understanding that expenses are to be met by departments of government requesting such service. Be it further

Resolved, That the American Medical Association make every effort to see that city and county physicians and executives of the health departments are members of the local medical societies and therefore of the American Medical Association. Therefore be it

Resolved, That the Council on Medical Education and Hospitals be requested to formulate and promulgate the qualifications and standards for hospital inspection and that such qualifications be supplied to all state, county and city governments.

Resolutions on Construction of New Building to House the Army Medical Library and the Army Medical Museum

Dr. Holman Taylor, Texas, presented the following resolutions, which were referred to the Reference Committee on Medical Education:

WHEREAS, The greatest medical library in the world, one with unrivaled collections of ancient and modern medical literature, is maintained in Washington and has served the medical profession of the country efficiently for more than a century, having been called "America's greatest contribution to medicine," and

WHEREAS, In the same building is located the largest medical museum in the United States, and one of the most extensive in the world, an institution which also serves the entire medical profession of the country, and

WHEREAS, The building housing these two magnificent scientific institutions is no longer of sufficient size, not fire proof, and wholly inadequate to permit the present activities of the Army Medical Library and Army Medical Museum to be carried on to the fullest extent, and

WHEREAS, the building in which the two institutions are located has been condemned as a fire hazard and cannot with safety support the weight of the collections of books and museum specimens, and because the present building must be removed in order that the approved program of the Congress for the beautification of the city of Washington may be carried out, and

WHEREAS, The Secretary of the Interior, who is also the Administrator of Public Works, notified the Secretary of War on Feb. 14, 1934, that the present building housing the Army Medical Library and Army Medical Museum interfered with these plans and should be removed, and

WHEREAS, The appropriation of a large sum of money for public works is now being considered by the Congress, and

WHEREAS, The medical profession of America is vitally interested in this medical library and museum, both of which are serving the medical profession efficiently and at a minimum of expense, and

WHEREAS, At the meeting of the American Medical Association held at Milwaukee on June 13, 1933, resolutions were adopted urging that the funds necessary for the construction of a suitable building for the Army Medical Library and Museum be provided, and that the building be constructed on the site adjacent to the Walter Reed General Hospital, specifically provided by Congress for this purpose more than twelve years ago; Now therefore, be it

Resolved, That the American Medical Association, in annual meeting assembled, respectfully requests that there be set aside for the construction of a new building for these two institutions at the Army Medical Center the sum of $2,086,000, and be it further

Resolved, That copies of this resolution be sent to the President of the United States, the Secretary of War, and the Administrator of Public Works, with the earnest request that the construction of his project of national importance be expedited.

Resolutions Urging Congress to Provide Funds for Acquisition of Books, Journals and Other Publications for the Army Medical Library

Dr. Holman Taylor, Texas, presented the following resolutions, which were referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, The Army Medical Library in Washington is the largest medical library in the world and for many years has acquired every book, pamphlet and journal of value in any of the medical sciences (including dental and veterinary science), thereby building up a priceless collection of material available to the entire medical profession of the nation, either by personal consultation at the library, or through its interlibrary loan system, and

WHEREAS, Through the publication of the *Index Catalogue* since 1880 this enormous mass of material, more than a milion items in number, has been completely indexed so that readers without difficulty may find material on any medical subject or by any author, and

WHEREAS, This *Index Catalogue*, now in its forty-eighth volume, is the world's standard of medical bibliography, being used as a reference in every civilized land, and being on deposit in all of the medical schools, medical libraries and the larger general libraries of the United States, and

WHEREAS, During recent years the funds available to the Army Medical Library have been so reduced as to render it necessary to reduce the purchases of medical books and journals, and likewise the binding of journals and books which require it, and

WHEREAS, In addition to reductions in appropriations, the fall of the dollar in terms of European and other foreign currencies has in effect still further reduced the funds available for foreign purchases by approximately half, such foreign purchases being the bulk of the expenditures of the Army Medical Library, and

WHEREAS, The reduction in the funds appropriated by the Congress to defray the cost of binding books and journals has made it impossible to

bind more than a fraction of the material which requires binding in order to preserve it, the remaining material therefore being unavailable for loans outside the library, to the great inconvenience and loss to the medical profession of the United States, and

WHEREAS, A number of scientific journals have patriotically agreed to continue to send their publications to the Army Medical Library for the present year without cost, in the hope that additional funds may later be made available to continue subscriptions for journals as in the past, thus preventing gaps among the splendid files of scientific journals in the Library's collection, but that such free subscriptions will probably not be extended beyond the present year, and

WHEREAS, Through no fault of the Army Medical Library, but under the operations of the Economy Act of 1933, funds for the printing of the first two volumes of the fourth series of the *Index Catalogue* reverted to the Treasury of the United States, amounting in all to $43,000, because the printing had not been completed by June 30, 1933, and

WHEREAS, The failure to make available funds for the printing of the *Index Catalogue*, the material for several volumes of which is now ready to be printed, has made it impossible to continue the publication of a volume of this great work each year, as has been the practice without interruption even in time of war, since its first volume appeared in 1880, now therefore be it

Resolved, That the American Medical Association in annual meeting assembled respectfully urge Congress hereafter annually to include in the appropriation for the support of the military establishment adequate funds for the acquisition of the important books, journals and other publications in the medical sciences for the Army Medical Library, and for the binding thereof, and the publication of the *Index Catalogue* at the rate of aproximately one volume per year hereafter, and an immediate appropriation of $50,000 to be used for the publication of the first two volumes of the fourth series of the *Index Catalogue* to cover the gap created by the failure to print these two volumes in 1933 and 1934, and be it further

Resolved, That copies of this resolution be sent to the President of the United States, the Vice President of the United States, the Speaker of the House of Representatives, the Secretary of War, the chairmen of the Military Affairs Committees of the Senate and House of Representatives, and the Chairman of the Appropriations Committees of the Senate and House of Representatives, urging them to do all in their power to bring about the legislation necessary to accomplish the purpose of this resolution which has the support of more than a hundred thousand American physicians.

Resolution on Establishment of Standards, Ratings and Inspection of Training Schools in Physical Therapy

Dr. C. B. Reed, Illinois, presented the following resolution, which was referred to the Reference Committee on Medical Education:

WHEREAS, There is a recognized demand for qualified professionally trained physical therapy technicians in the hospitals, clinics, physicians' offices and schools for crippled children of this country, and

WHEREAS, The work of these technicians is under the direction of members of the medical profession, and

WHEREAS, The medical profession and the American Physiotherapy Association recognize the vital importance of establishing minimum standards of training and the inspection of training schools in physical therapy by a qualified and authoritative organization; therefore be it

Resolved, That the entire subject be left to the Board of Trustees of the American Medical Association, with the request that it be given careful study and consideration, and, if practical and feasible, some plan for the establishment of standards, ratings and inspections of training schools in physical therapy be effected, providing that the expense of such inspection be borne by the school requesting the same.

Resolution on Standing of Certified Raw Milk

Dr. A. J. Scott Jr., California, presented the following resolution, which was referred to the Reference Committee on Hygiene and Public Health:

WHEREAS, The California Medical Association is informed that the American Medical Association through one of its departments favors the pasteurization of milk including certified raw milk, and

WHEREAS, Certified raw milk only is safe, therefore be it

Resolved, That the delegates to the American Medical Association be instructed to enlist the aid of the Section on Pediatrics or other interested groups and take such action as may be necessary in their discretion to restore the standing of certified raw milk.

Resolutions on the Necessity of Institutions Being on Approved Lists of Component Societies

Dr. Emmett P. North, Missouri, presented the following resolutions, which were referred to the Reference Committee on Medical Education:

At the seventy-seventh annual meeting of the Missouri State Medical Association, held in St. Joseph, May 7-10, 1934, the following resolutions were introduced by Dr. R. B. H. Gradwohl, St. Louis, and on motion duly seconded the resolutions were adopted:

WHEREAS, Definite policies are now in operation and in the process of development in various parts of the country, with the object of attaining the cooperation of hospitals, clinics, medical colleges and like institutions, in observing the economic and ethical principles enunciated by component local societies in affiliation with the Missouri State Medical Association, and

WHEREAS, As a result of the promulgation of these policies by component units of the Missouri State Medical Association, definite "approved lists" of hospitals, clinics, medical colleges, and like institutions are properly being compiled, therefore be it

Resolved, That the Missouri State Medical Association memorialize the American Medical Association, and instructs its delegates thereto, to request the American Medical Association to adopt policies by which the American Medical Association shall not approve any institution for any purpose unless and until such institution shall be officially in the approved list of the component medical society or societies in the jurisdiction of which such hospital or institution is located or operates; be it further

Resolved, That any institution failing of approval of the society or societies concerned shall have the right of appeal to and hearing before the proper committee of the American Medical Association.

Resolution Limiting Physicians on Staffs of Hospitals Approved for Intern Training to Members of Component County Medical Societies

Dr. G. Henry Mundt, Illinois, presented the following resolution, which was referred to the Reference Committee on Medical Education:

Resolved, That it is the opinion of the House of Delegates of the American Medical Association that physicians on the staffs of hospitals approved for intern training by the Council on Medical Education and Hospitals should be limited to members in good standing of their local county medical societies and that the House of Delegates requests the Council on Medical Education and Hospitals to take this under advisement.

Resolution Requesting Federal Authorities to Undertake Studies of Chemical Content and Value of Foods in Collaboration with Selected Medical Colleges and Research Laboratories

Dr. Edgar A. Hines, South Carolina, presented the following resolution, which was referred to the Reference Committee on Hygiene and Public Health:

WHEREAS, Food is of fundamental importance in the preservation of health and well being, and

WHEREAS, Relatively little scientific information exists and is available in regard to the chemical constituents of foods including their mineral and vitamin content, and

WHEREAS, Further scientific information is essential in order to determine the relationship of foods to health and disease, and

WHEREAS, Federal funds have already been appropriated for relief purposes that might properly be allocated for measures directed toward the improvement of the food supplies of the people of the United States, therefore be it

Resolved, That the federal authorities be urged by the American Medical Association to undertake studies of the chemical content and value of foods and that these studies be conducted in collaboration with selected medical colleges and research laboratories in different sections of the country.

Resolutions Opposing the Administration of Anesthetics by Any One Except a Licensed Physician or Dentist

Dr. James N. Vander Veer, New York, presented the following resolutions, which were referred to the Reference Committee on Miscellaneous Business:

WHEREAS, At the time of the passage of the medical practice act, and for many years thereafter, it was the accepted interpretation that the administering of an anesthetic by any one except a licensed physician or dentist was illegal, and this also was evidenced by the ban on the administering of anesthetics by duly licensed osteopaths; and

WHEREAS, During the past ten years or so there has been an insidious usurping of the duties and rights of duly licensed physicians by lay technicians and nurses who administer anesthesia despite the fact that there has been no change in the medical practice act; and

WHEREAS, During this same period there have been marked advances in the physiologic, chemical, mechanical and therapeutic problems involved in anesthesia to none of which nonmedical technicians have made any contribution; and

WHEREAS, These advances have reached a stage where they require a medical education for their proper interpretation and safe utilization; and

WHEREAS, The present custom in many hospitals of having nonmedical technicians administer anesthetics deprives the residents or interns of opportunities for instruction in this important branch of medicine, yet these same doctors, untrained in anesthesia, will subsequently be the ones the law assumes to be qualified to give, supervise and accept full responsibility for the administration of the anesthesia; and

WHEREAS, The inroads of these technicians have tended to discourage medical graduates from entering this field of medicine and have decreased

the likelihood of qualified medical successors to those who have been so instrumental in advancing the art and science of anesthesia; and

WHEREAS, The giving of an anesthetic involves on the part of the operator the exercise of judgment, discretion and skill and is not merely a mechanical performance which can be routinely performed by any untrained individual without jeopardy to the patient; and

WHEREAS, The successful administration of anesthesia requires the exercise of proper medical care during the procedure and involves an examination of a patient to determine his physical ability to undergo the process and a careful watching of the patient during the administration of the anesthesia to determine its effects and the quantity administered; and

WHEREAS, The prevalent custom of evasion of the spirit of the law by the technical assumption of responsibility by the operating surgeon is a mere subterfuge, as the surgeon in most hospitals rarely selects or inquires into the technician's qualifications, does not usually supervise the administration of the anesthetic at its most critical period, namely the induction, and even though present during its maintenance the surgeon, because of his interest in the operative procedure, cannot always promptly detect the necessity for therapeutic intervention, which determination must be left to the judgment of the anesthetist; and

WHEREAS, Many hospitals and private sanatoriums advertise to the public and the profession that an anesthetist will be available; this being a misrepresentation when such anesthetist is only a technician while the general assumption is that the term anesthetist implies a physician; and

WHEREAS, Since the surgeon is by law responsible for the act of an agent, if in fact the lay anesthetist is the doctor's agent when administering an anesthetic, the surgeon assumes a responsibility and liability which under certain circumstances may nullify the effect of his malpractice coverage if it can be proved that such lay anesthetist is performing an unlawful or illegal act; and

WHEREAS, Our acquiesence to the encroachment by nonmedical technicians in the field of anesthesia, on the prerogatives of the physicians, will make it increasingly difficult to exclude the osteopaths and others from these same privileges, for if any division of medicine desires to nullify any section of the medical practice act it can do so by the subterfuge of assuming the responsibility, then other divisions of medicine must, in justice, be accorded the same privilege and the whole act be thus weakened; therefore be it

Resolved, That the Medical Society of the State of New York affirm that the giving of an anesthetic constitutes the practice of medicine and insist on the strict observance of the provisions of the medical practice act, without subterfuge or evasion; and be it further

Resolved, That the delegates of the Medical Society of the State of New York to the American Medical Association be instructed to present a similar resolution to the House of Delegates of the American Medical Association at the impending session in Cleveland.

Resolutions on Preparation of Extensive Photographs and Other Data and Information of Exhibits at Chicago International Exposition

Dr. Clarence G. Toland, California, presented the following resolutions, which were referred to the Board of Trustees:

WHEREAS, Several of the constituent state medical units of the American Medical Association maintain yearly public health exhibits at their state and county fairs, and

WHEREAS, At the Century of Progress International Exposition at Chicago, comprehensive exhibits of the scientific and other progress of medicine are being displayed, which exhibits have great suggestive value for constituent state and component county medical societies interested in producing and maintaining such exhibits in their respective districts, and

WHEREAS, The amount of definite, informative data on these matters in the files of the American Medical Association has not been overgreat, now, therefore, be it

Resolved, That the matter be called to the attention of the House of Delegates of the American Medical Association at the forthcoming Cleveland Session, in the hope of securing the endorsement of that House to the plan of having the Board of Trustees of the American Medical Association order the preparation of extensive photographs and other data and information of those exhibits at the Chicago International Exposition, which, if duplicated or modified, could be advantageously and economically reproduced or used as exhibits of constituent state and county medical associations, and be it further

Resolved, That the California Medical Association delegates be instructed to present this resolution to the House of Delegates of the American Medical Association for its consideration.

Resolutions Barring from the Practice of Radiology All Persons Not Licensed to Practice Medicine

Dr. George M. Fisher, New York, presented the following resolutions, which were referred to the Reference Committee on Medical Education:

WHEREAS, The making of a diagnosis by means of the x-rays and for the administration of x-rays, or other radiant energy for treatment, are methods of diagnostic or therapeutic medical practice, and

WHEREAS, The medical practice act makes the diagnosing and/or treatment of disease unlawful for any one not duly licensed to practice medicine, and

WHEREAS, During the past ten years or more lay persons and lay organizations have established and are conducting x-ray laboratories in which lay persons are examining and/or treating patients by means of x-rays, and

WHEREAS, Such lay persons are not properly qualified and are not subject to effective supervision or control, and

WHEREAS, The x-rays in the hands of inexperienced and/or irresponsible persons are in themselves a potential source of injury to the patient, and

WHEREAS, In addition to these dangers, x-ray diagnosis frequently requires the administration of potent drugs or chemicals which may be legally administered only by licensed physicians, and

WHEREAS, Under these conditions the lay x-ray operator and the commercial x-ray laboratories constitute a menace to the public and in addition are strictly commercial enterprises conducted by business getters who are actuated by the profit motive and who consequently do not feel themselves bound by the rules of medical ethics but who resort to all sorts of questionable methods to attract a compliant clientele, and

WHEREAS, By the employment of solicitors, runners and/or other business agents and by the promise of rebates or of favorable or dishonest diagnoses obtain the patronage of unscrupulous physicians or of business and industrial organizations to the detriment of the patient, and

WHEREAS, Because of their illegal activities and the desire for profit they have been unable to attract competent physicians adequately trained in radiology and as a result employ the services of individuals whose education, training and character are unacceptable to right thinking members of the medical profession or to the American Medical Association, and

WHEREAS, The technical diagnostic and therapeutic advances being made in radiology are due to and dependent on properly trained physicians to whom science must look for further progress in the field of radiology, and

WHEREAS, The lay x-ray technicians and laboratories have so encroached on the practice of radiology that competent and ethical medical practitioners find it more and more unattractive as a field of endeavor, thus endangering the progress and advancement of the science of radiology and the welfare of the public, be it therefore

Resolved, That the House of Delegates in convention assembled believes that the practice of radiology, whether for diagnostic or therapeutic purposes, constitutes in fact the practice of medicine, and be it further

Resolved, That the properly constituted authorities be called on to take the requisite steps to bar all persons not licensed to practice medicine in the state of New York from the practice of radiology, and be it further

Resolved, That, if it is the opinion of the Attorney General that nonmedical technicians practicing radiology are not violating the law under present conditions, such steps be taken to institute legislation which will include radiology in the practice of medicine and to limit diagnostic or therapeutic x-ray work to the direct and active supervision and control of duly licensed physicians or dentists, and be it further

Resolved, That our delegates from New York to the American Medical Association be instructed to bring this matter to the attention of the House of Delegates of the American Medical Association at the impending session.

Resolutions on Discrimination Against Certain Members of the Medical Profession

Dr. Edward R. Cunniffe, New York, presented the following resolutions, which were referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, Civilized peoples have never discriminated against any one who contributes to medical science or against one who is qualified to engage in the healing of the sick, because of his race, or religious belief, or economic views;

WHEREAS, Under the Nazi régime, by governmental decrees and otherwise, persons engaged in research or the practice of medicine have been either barred or expelled from their laboratories and clinics without justice or reason, other than that they differed in racial origin or religion from that of their colleagues, and

WHEREAS, Our brother physicians are not permitted to participate in the health insurance service and are permitted to consult only with physicians designated by the German government, and expelled from medical societies and clubs in spite of their previous noteworthy contribution to science and medicine, and

WHEREAS, Such discrimination tends to hamper the efforts of the profession in its chosen task of combating disease and alleviating suffering, and

WHEREAS, German medicine, previous to the past year, has made outstanding contributions in the field of human progress, and

WHEREAS, The measures instituted by the present Nazi government are doing incalculable harm to the progres of medicine throughout the world, therefore, be it

Resolved, That the New York Medical Society record its abhorrence and voices its resentment against such practices as being unfair, inhuman and inimical to progress of medicine generally, and a violation of those humane ideals which are among the cherished traditions of the medical profession; and be it further

Resolved, That the delegates of this house to the American Medical Association be instructed to register the protest of this body.

Resolution on Publicity by Clinics, Hospitals, Sanatoriums and Other Semipublic Medical Institutions

Dr. Ben R. McClellan, Ohio, presented the following resolution, which was referred to the Judicial Council:

WHEREAS, There are occasional evidences of advertising, publicity and propaganda by certain large clinics in violation of the proper ethical

and professional restrictions placed on individual physicians; therefore be it

Resolved, By the House of Delegates of the American Medical Association at the Eighty-Fifth Annual Session in Cleveland, June 11 to 15, 1934, that attention of the county medical societies be called and emphasis again placed on the following declaration of policy and principle incorporated in resolutions adopted by this body in 1924:

1. Publicity by clinics, hospitals, sanatoriums and other semipublic medical institutions as to quality of work done implies unusual and exceptional ability and efficiency on the part of their professional staffs and therefore is advertising of the medical men concerned. This type of advertising distinctly savors of quackery and is unethical.

2. Publicity by any such institution stating or implying that, by reason of its exceptionally fine equipment and material resources, it is able to, or does, give the public better medical service than similar institutions are able or willing to render, is advertising for purposes of self aggrandisement. Statements of this type are frequently exaggerated and misleading and are detrimental to the best interests of the public, of the institution concerned and of true medical progress. Publicity of this kind is unethical.

Resolution on Health Insurance from Michigan State Medical Society

Dr. Carl F. Moll, Michigan, read the resolution on health insurance from the Michigan society. Dr. J. H. J. Upham, chairman of the Board of Trustees, offered a recommendation from the Committee on Executive Session that this resolution be considered in executive session on Monday afternoon. A motion to that effect was made by Dr. Moll, seconded by Dr. Arthur J. Bedell, New York, and carried. On motions of Dr. Bedell, duly seconded, the House voted to call the executive session for 2 p. m., Monday, June 11, and to limit attendance to members of the House of Delegates.

Resolution on Free Choice of Physician

Dr. Arthur J. Bedell, New York, presented the following resolution, which was referred to the Reference Committee on Legislation and Public Relations:

WHEREAS, The procedures established by the Federal Compensation Bureau do not allow free choice of physicians, and

WHEREAS, The physicians as citizens should not be discriminated against in their professional work, be it

Resolved, That the House of Delegates instruct its delegates to the American Medical Association to present this matter and urge the Association to attempt a change of rules of the Federal Compensation Bureau which will allow the injured person free choice of physician.

Resolution on Perfecting of a Plan for the Handling of Liability Insurance

Dr. Horace Reed, in behalf of the Oklahoma delegation, presented the following resolution, which was referred to the Board of Trustees:

WHEREAS, That the House of Delegates of the Oklahoma State Medical Association hereby specifically instruct their Delegates to the American Medical Association to introduce a resolution in the House of Delegates of the American Medical Association favorable to the instituting of liability insurance to members by the American Medical Association.

Amended to Read, That our delegates to the American Medical Association investigate as to the feasibility of the American Medical Association perfecting a plan for the handling of liability insurance.

Resolution Limiting Approval of Institution

Dr. Horace Reed, in behalf of the Oklahoma delegation, presented the following resolution, which was referred to the Judicial Council:

WHEREAS, Definite policies are now in operation and in the process of development in various parts of the country, with the object of attaining the cooperation of hospitals, clinics, medical colleges and like institutions, in observing the economic and ethical principles enunciated by component local societies in affiliation with the Oklahoma State Medical Association, and

WHEREAS, As a result of the promulgation of these policies by component units of the Oklahoma State Medical Association, definite "approved lists" of hospitals, clinics, medical colleges and like institutions are properly being compiled, therefore be it

Resolved, That the Oklahoma State Medical Association memorialize the American Medical Association, and instruct its delegates thereto, to request the American Medical Association to adopt policies by which the American Medical Association shall not approve any institution for any purpose unless and until such institution shall be officially in the approved list of the component medical society or societies in the jurisdiction of which such hospital or institution is located or operates. Any institution failing of approval of the society or societies concerned shall have the right of appeal to and hearing before the proper committee of the American Medical Association.

Amendments to Principles of Medical Ethics

Dr. George Edward Follansbee, Chairman of the Judicial Council, presented the following three amendments to the Principles of Medical Ethics, which were referred to the Reference Committee on Amendments to the Constitution and By-Laws:

1. WHEREAS, The Judicial Council in its report to the House of Delegates at the Milwaukee session in 1933 recommended the simplification of the section in the Principles of Ethics relating to contract practice by the addition of the wording appearing later in this resolution, and

WHEREAS, The recommendation of the Judicial Council was approved by the reference committee to which it was referred, and was adopted by the House of Delegates, therefore be it

Resolved, That the Principles of Ethics, chapter II, article V, section 2, be amended by adding to the present wording the following:

"By the term 'contract practice' as applied to medicine is meant the carrying out of an agreement between a physician or a group of physicians, as principals or agents, and a corporation, organization or individual, to furnish partial or full medical services to a group or class of individuals for a definite sum or a fixed rate per capita.

"Contract practice per se is not unethical. However, certain features or conditions if present make a contract unethical, among which are: 1. When there is solicitation of patients, directly or indirectly. 2. When there is underbidding to secure the contract. 3. When the compensation is inadequate to assure good medical service. 4. When there is interference with reasonable competition in a community. 5. When free choice of a physician is prevented. 6. When the conditions of employment make it impossible to render adequate service to the patients. 7. When the contract because of any of its provisions or practical results is contrary to sound public policy.

"Each contract should be considered on its own merits and in the light of surrounding conditions. Judgement should not be obscured by immediate, temporary or local results. The decision as to its ethical or unethical nature must be based on the ultimate effect for good or ill on the people as a whole."

2. WHEREAS, The growth of groups and clinics has intensified the economic competition between them and individual practitioners and

WHEREAS, The common custom of employment of "business managers" by the clinics and groups has had a tendency to submerge the ethical principles governing competition among doctors, and

WHEREAS, Clinics and groups were little known, were not serious competition and were not mentioned when the present general revision of the Principles of Ethics were adopted in 1912, be it

Resolved, That the Principles of Ethics be revised as follows:

Chapter I shall read (heading) "In General."

Section 1 to remain as it is.

Section 2 to be added as follows (heading) "Groups and Clinics."

"Section 2. The ethical principles actuating and governing a group or clinic are exactly the same as those applicable to the individual. As a group or clinic is composed of individual doctors, each of whom, whether employer, employee or partner, is subject to the principles of ethics herein elaborated, the uniting into a business or professional organization does not relieve them either individually or as a group from the obligation they assume when entering the profession."

The remainder of chapter I becomes chapter II with its present heading.

Present section 2 of chapter I becomes section 1 of chapter II.

Present section 3 of chapter I becomes section 2 of chapter II.

Present section 4 of chapter I becomes section 3 of chapter II.

Chapter II becomes chapter III.

Chapter III becomes chapter IV.

3. *Resolved*, That the Principles of Ethics be amended by inserting as section 4 of article VI, chapter II, "It is unprofessional for a physician to dispose of his professional attainments or services to any lay body, organization, group or individual, by whatever name called, or however organized, under terms or conditions which permit a direct profit from the fees, salary or compensation received to accrue to the lay body or individual employing him. Such a procedure is beneath the dignity of professional practice, is unfair competition with the profession at large, is harmful alike to the profession of medicine and the welfare of the people, and is against sound public policy."

Recommendation of Joint Meeting of American Medical Association and Canadian Medical Association in 1935

Dr. J. H. J. Upham, Chairman of the Board of Trustees, presented the following recommendation, which was referred to the Council on Scientific Assembly:

On several occasions the Canadian Medical Association has suggested a joint meeting of the American Medical Association and the Canadian Medical Association. This year an invitation was extended to the Association to meet the Canadian Medical Association in Canada—to have its business meeting in the United States and the scientific meeting in Canada.

The Board looks with favor on the holding of a joint scientific meeting of the two organizations and recommends to the House of Delegates that an invitation be extended to the Canadian Medical Association to join with the American Medical Association in its scientific program in 1935.

The meeting recessed at 12:55 p. m. to reconvene at 2 p. m.

Monday Afternoon, June 11

The House of Delegates was called to order at 2:05 p. m. by the Speaker, Dr. F. C. Warnshuis.

Resolutions on Contraceptive Methods

Dr. J. D. Brook, Michigan, presented the following resolutions, which were referred to the Reference Committee on Hygiene and Public Health:

WHEREAS, Innumerable devices, chemical substances, technics and "safe period calendars" are being offered to the public, for the purposes of contraception, and

WHEREAS, Members of the medical profession are constantly asked by the public to advise them relative to the scientific efficacy of such materials and methods and the conditions that justify their employment; therefore be it

Resolved, 1. That the House of Delegates create a special committee of five on "the study of contraception" to be appointed by the Speaker with the advice of the Executive Committee of the Board of Trustees;

2. That this committee be instructed to study the problem of birth control in all its medical aspects, particularly as they relate to methods, conditions indicating their employment, and the best manner of imparting instruction thereon to physicians and to the lay public;

3. That this committee be provided by the Council on Pharmacy and Chemistry with a statement of the therapeutic value and effectiveness of contraceptive preparations that are or may be offered by manufacturers, and that the Board of Trustees be requested to instruct this council and other appropriate committees to render all reasonable assistance and advice to this special committee; and

4. That the Board of Trustees provide this special committee with a fund, to be determined after conference with the committee chairman, for clerical and correspondence expenses, and be it further

Resolved, That the report of this special committee, together with all its findings and recommendations, be not disclosed until it has been presented at the 1935 executive session of this House of Delegates for consideration and affirmative action by this House of Delegates, and be it also

Resolved, That the appointment of this special committee shall in no way be construed as an endorsement of birth control on the part of the American Medical Association, and that the appointment of this committee is for the purpose of compiling dependable facts for future guidance.

Resolution on Apparent Attempt of Board of Regents of the American College of Surgeons to Dominate and Control Medical Practice

Dr. Charles J. Whalen, Illinois, presented the following resolution, which was referred to the Judicial Council:

WHEREAS, The American Medical Association, including in its membership almost 100,000 physicians, is the only body representing all of the organized profession of this country through delegates regularly elected through county and state medical societies; and

WHEREAS, Various similar medical organizations and groups, including in their membership selected groups of specialists of various types, have from time to time issued pronouncements of policies in the field of medical economics and medical practice, which do not represent the views of organized medicine; and

WHEREAS, The House of Delegates of the American Medical Association has repeatedly condemned the issuing of such announcements and policies, which seriously embarrass the attempts of your organization to secure adequate care for the health of the American people and to protect the ideals of the medical profession; and

WHEREAS, The Board of Regents of the American College of Surgeons, assembled in Chicago on Sunday, June 10, promulgated a policy including a prepayment plan for medical care, restricted to the hospitals approved by the American College of Surgeons, to members of the staffs of such hospitals, and to physicians acceptable to such staffs; and

WHEREAS, This action of the Board of Regents of the American College of Surgeons has been spread to the people of the United States through the press on the opening day of the annual session of this House of Delegates; therefore be it

Resolved, That the House of Delegates of the American Medical Association express its condemnation of such tactics and of this attempt of the Board of Regents of the American College of Surgeons to dominate and control the nature of medical practice to the detriment of professional ideals and the welfare of the public.

Resolution on Composition of Council on Physical Therapy

Dr. Joseph F. Smith, Wisconsin, presented the following resolution, which was referred to the Board of Trustees:

WHEREAS, The Board of Trustees of the American Medical Association, pursuant to a resolution passed by the House of Delegates of the American Medical Association at its 1925 session, established a Council on Physical Therapy consisting of two physicists, two physiologists, two pathologists and two clinicians whose duty it should be to investigate scientifically and report on the value and merits of all nonmedicinal apparatus and contrivances offered for sale to physicians and hospitals and to publish in THE JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION from time to time the results of their investigation, and

WHEREAS, The Council so appointed has done most excellent work in determining the merits and demerits of the various types of apparatus offered, thereby furnishing to the medical profession a means of ascertaining the reliability and accuracy of various types of physical therapy apparatus, and

WHEREAS, It seems at this time desirable to continue the Council so constituted as to be equipped for high grade scientific investigation as well as clinical research, and

WHEREAS, The personnel of the Council as at present constituted does not conform to request of the original resolution as passed by this House of Delegates in 1925, be it

Resolved, By this House of Delegates, that the Board of Trustees in making appointments to the Council be requested to conform to the personnel designated in the original resolution and that two physical therapists practicing in reputable institutions or hospitals be added to the Council.

The House voted to permit the editor of THE JOURNAL, the director of the Bureau of Legal Medicine and Legislation and the director of the Bureau of Medical Economics to sit in the executive session.

Executive Session, Monday Afternoon, June 11

The House of Delegates convened in executive session at 2:15 p. m., the Speaker, Dr. F. C. Warnshuis, in the Chair.

Dr. J. H. J. Upham, Chairman, submitted for consideration by the House of Delegates an official statement of the Board of Trustees.

On motion of Dr. E. H. Cary, Texas, seconded by Dr. H. A. Luce, Michigan, and carried, after a motion for the House to resolve itself into a Committee of the Whole had lost, the matter was referred to a special committee for report at an executive session on Tuesday afternoon, June 12. The Speaker appointed the special committee as follows: N. B. Van Etten, New York, chairman; J. Norman Henry, Pennsylvania; George Blumer, Connecticut; C. A. Dukes, California; McLain Rogers, Oklahoma; E. H. Cary, Texas, and F. S. Crockett, Indiana.

A motion offered by Dr. William D. Chapman, Illinois, seconded by Dr. R. L. Green, Illinois, to permit the executive secretaries of state societies to attend the executive session was defeated.

The meeting recessed at 2:40 p. m., to reconvene on Tuesday morning, June 12, at 9:30.

REGISTRATION AT CLEVELAND

The total registration at the Cleveland session was 6,293. Below are given two summaries—one by sections and one by states:

Registration by Sections

Practice of Medicine	1,963
Surgery, General and Abdominal	1,009
Obstetrics, Gynecology and Abdominal Surgery	500
Ophthalmology	264
Laryngology, Otology and Rhinology	264
Pediatrics	348
Pharmacology and Therapeutics	40
Pathology and Physiology	174
Nervous and Mental Diseases	167
Dermatology and Syphilology	190
Preventive and Industrial Medicine and Public Health	168
Urology	219
Orthopedic Surgery	176
Gastro-Enterology and Proctology	206
Radiology	329
Miscellaneous Topics, Sessions on Forensic Medicine and on Nutrition, two or more sections, or no section marked	166
Total	6,293

Registration by States

Alabama	24	New Hampshire	3
Arizona	6	New Jersey	55
Arkansas	22	New Mexico	1
California	92	New York	591
Canal Zone	2	North Carolina	33
Colorado	37	North Dakota	11
Connecticut	37	Ohio	2,122
Delaware	6	Oklahoma	43
Dist. of Columbia	79	Oregon	15
Florida	46	Pennsylvania	721
Georgia	42	Porto Rico	1
Idaho	2	Rhode Island	10
Illinois	433	South Carolina	24
Indiana	187	South Dakota	8
Iowa	78	Tennessee	61
Kansas	47	Texas	78
Kentucky	67	Utah	8
Louisiana	29	Vermont	7
Maine	8	Virginia	66
Maryland	73	Washington	26
Massachusetts	145	West Virginia	84
Michigan	378	Wisconsin	95
Minnesota	101	Wyoming	2
Mississippi	6	Miscellaneous	73
Missouri	144		
Montana	9	Total	6,293
Nebraska	54		

(To be continued)

Association News

MEDICAL BROADCASTS

Columbia Broadcasting System

The American Medical Association broadcasts on a Western network of the Columbia Broadcasting System each Thursday afternoon on the Educational Forum from 4:30 to 4:45, Central daylight saving time. The next three broadcasts will be as follows:

June 28. Motor Touring and Camping, W. W. Bauer, M.D.
July 5. Death Angel, W. W. Bauer, M.D.
July 12. A Healthful Vacation, Morris Fishbein, M.D.

National Broadcasting Company

The National Broadcasting Company talks have been discontinued for the summer.

Medical News

(PHYSICIANS WILL CONFER A FAVOR BY SENDING FOR THIS DEPARTMENT ITEMS OF NEWS OF MORE OR LESS GENERAL INTEREST; SUCH AS RELATE TO SOCIETY ACTIVITIES, NEW HOSPITALS, EDUCATION, PUBLIC HEALTH, ETC.)

CONNECTICUT

Pediatric Meeting.—The New England Pediatric Society convened in annual session, May 19, in New Haven. The program included the following subjects:

Mottled Enamel, Arthur H. Smith, Ph.D., and Bert G. Anderson, D.D.S.
Recent Advances in Nutrition of Interest to Pediatricians, Lafayette B. Mendel, LL.D.
Demonstration of Apparatus for Stimulating Excitable Centers for Remote Control, Dr. Richard U. Light.
The Developmental Diagnosis of Infant Behavior and Its Relation to Clinical Pediatrics, Dr. Arnold Gesell.
The American Academy of Pediatrics, Dr. Louis C. Schroeder, New York.
Clinical Presentation, Dr. Grover F. Powers and staff of New Haven Hospital.

ILLINOIS

Campaign Against Typhoid.—The state health department has instituted a vaccination campaign against typhoid in eleven counties in southern Illinois. The work is being carried out in Jefferson and Fayette counties and was scheduled to begin early in June in Saline, Williamson, Jackson, Union, Randolph and Madison counties. It will be extended into the remaining counties as soon as facilities permit.

Chicago

Dr. Evans Retires from the Chicago Tribune.—Dr. William A. Evans, professor emeritus of public health, Northwestern University School of Medicine, has retired as health editor of the Chicago *Tribune*, after twenty-three years' service. He will be succeeded by Dr. Irving S. Cutter, dean of Northwestern University School of Medicine.

Society News.—Drs. Ralph A. Reis and Robert M. Grier presented "A Comparative Five Year Study of Maternal Mortality at Michael Reese and Evanston Hospitals, 1929-1933" before the fifty-seventh annual meeting of the Chicago Gynecological Society, June 22, and Dr. Edward L. Cornell, "A Preliminary Report on the Maternal Deaths for 1933 in Chicago."——Dr. Ernestine V. Kandel, among others, addressed the Chicago Council of Medical Women, June 1, on "Differential Diagnosis and Therapy in Leukemias."

University Tuberculosis Unit Opened.—With the opening of a new tuberculosis unit in the University of Chicago Clinics, June 11, it will be possible to care for these patients for long periods and to treat their tuberculosis as it is treated in tuberculosis sanatoriums, according to the *News Bulletin* of the Division of Biological Sciences. Heretofore, tuberculous patients have been admitted to the University Clinics only for diagnosis and treatment of complications. The assembling of these patients on one floor and in the same division will be an experiment, it was pointed out, to show, first, whether such a unit may be operated successfully from a medical standpoint, and to prove whether the unit may be operated at a cost low enough for the typical sanatorium patient to meet.

Changes at University of Chicago.—Dr. Henry L. Schmitz has resigned as assistant professor of medicine, Division of Biological Sciences, University of Chicago, to enter private practice. Other changes on the faculty include the appointment of Dr. Arthur K. Koff as instructor in obstetrics and gynecology, effective July 1, and Dr. Francis Keith Bradford, assistant in neurosurgery. Promotions include:

Dr. Morris Edward Davis, associate professor of obstetrics and gynecology, effective July 1.
Dr. Lowell T. Coggeshall, assistant professor of medicine, effective July 1.
Dr. Theodore E. Heinz, assistant professor of medicine, effective July 1.
Dr. Henry Close Hesseltine, assistant professor of obstetrics and gynecology, effective July 1.
Dr. Normand L. Hoerr, assistant professor of anatomy, effective October 1.
Dr. Frank E. Whitacre, assistant professor of obstetrics and gynecology, effective July 1.

GEORGIA

Society News.—Dr. George L. Walker Jr. presented a paper on "The Measurement of the Work of the Heart and Its Relation to Disease" before the Fulton County Medical Society, June 7.——Dr. Joseph Righton Robertson, Augusta, was chosen president-elect of the Georgia Urological Association at its meeting in Augusta, May 10, and Dr. Walter B. Emery, Atlanta, was installed as president.

Honorary Society Lecture.—Dr. Claude S. Beck, associate professor of surgery, Western Reserve University School of Medicine, Cleveland, addressed Caduceus, an honorary medical society of Emory University School of Medicine, May 17, on "The Surgical Relief of Adhesive Pericarditis" and "Contusion Wounds of the Heart." The society recently inaugurated the plan of having an annual lecture.

INDIANA

Memorial to Physicians.—Three physicians who are identified with the early history of the James Whitcomb Riley Hospital, Indianapolis, were honored, May 18, when tablets were dedicated to their memory. The physicians were John H. Oliver, Lafayette Page and Frank A. Morrison, and eulogies were presented, respectively, by Drs. William P. Garshwiler, Louis Burckhardt and John Cunningham. The three tablets are grouped around a brass figure, about 6 feet in diameter, in the form of a cross. In the center of this design there are medical symbols and in each limb of the cross there are four names of persons prominent in medicine: Hippocrates, Avicenna, Galen, Paré, Vesalius, Harvey, Sydenham, van Leeuwenhoek, Jenner, Virchow, Koch, Pasteur, Long, Beaumont, Roentgen and Walter Reed. The tablets are the work of Harry Inge Johnstone and Donald M. Mattison, both of the Herron Art Institute, Indianapolis. About 250 guests attended the dinner following the unveiling. The guests included the governor of Indiana, the president and board of trustees of the University of Indiana School of Medicine, the mayor of Indianapolis, and living members of the families of the three physicians to whom the tablets were dedicated.

IOWA

Scarlet Fever in Hampton Traced to Raw Milk.—Twenty-five cases of scarlet fever, affecting fifteen homes, were reported in an outbreak in Hampton in March. No deaths occurred. The source of the outbreak was traced to a dairy farm where, the subsequent investigation disclosed, several persons had been ill. No physician had been called. Hemolytic streptococci were found in the majority of the patients. The board of health prohibited the distribution of milk by the farm and control measures were instituted. The first case of the outbreak was reported, March 13; twenty were recorded between March 17 and 20, when the distribution of milk was forbidden, and the remaining four occurred between that date and April 1.

MAINE

State Medical Election.—Dr. John L. Johnson, Bangor, was chosen president-elect of the Maine Medical Association at its annual meeting in Bangor, May 28-29. Dr. Edwin W. Gehring, Portland, was inducted into the presidency. At a banquet, May 29, medals were presented to members who had completed fifty years of practice. Four of the five physicians to be honored were present: Leon L. Hale, South Portland; Albert P. Heald, Thomaston; Charles A. Moulton, Hartland; James S. Sturtevant, Dixfield. Dr. Roscoe G. Blanchard, Dover, N. H., was unable to be present.

Society News.—Dr. Theodore S. Moise, Bangor, addressed a recent meeting of the Cumberland County Medical Society on "Surgical Treatment of Pulmonary Tuberculosis."—Dr. Richard S. Hawkes, Portland, presented a paper on "Rôle of Liver, Iron and Copper in the Treatment of Certain Anemias" before the Portland Medical Club, April 3.—At a meeting of the Hancock County Medical Society in Ellsworth, April 25, Drs. John G. Towne, Waterville, and Carl J. Hedin, Bangor, presented papers on "Medicolegal Problems as Applied to the General Medical Man" and "Psychiatric Problems, Border-Line in Nature and the Neuroses," respectively; Dr. John L. Johnson, Bangor, spoke on insurance and malpractice and Dr. Warren E. Kershner, Bath, discussed the subject.—Dr. Frederick T. Hill addressed the Kennebec County Medical Association in Waterville, April 19, on "Treatment of Chronic Deafness, Not an Otological Problem Alone," and Dr. Charles Harold Jameson, Rockland, "The Prostate Gland." A clinical program was also presented.—Dr. John O. Piper, Waterville, discussed "Spontaneous Subdural Hemorrhage" before the Knox County Medical Society in Rockland, April 10.—At a meeting of the Oxford County Medical Association in Bethel, May 2, Dr. Lester Adams, Greenwood Mountain, spoke on "The Childhood Type of Tuberculosis."

MASSACHUSETTS

Changes at Harvard.—Dr. John Homans, assistant professor of surgery, Harvard Medical School, Boston, has been appointed clinical professor of surgery for three years. Other changes on the faculty include Dr. Charles C. Lund, instructor in surgery, named assistant professor for three years; Dr. William T. Salter, assistant professor of medicine for three years, and Dr. James Clark White, instructor in surgery, as assistant professor for three years.

Society News.—Speakers before the annual meeting of the New England Physical Therapy Society in Boston, May 16, were Drs. William D. McFee and Halsey B. Loder, both of Boston, on physical medicine, with a consideration to electrotherapy and electrosurgery, respectively.—Dr. Chevalier L. Jackson, Philadelphia, addressed the New England Roentgen Ray Society in Boston, May 18, on "Value of Roentgenography in the Diagnosis of Laryngeal Disease."

Lectures on the Electrocardiograph.—Dr. Frank N. Wilson, professor of internal medicine, University of Michigan School of Medicine, Ann Arbor, delivered two lectures, at the Boston Medical Library, May 24-25, under the auspices of the New England Heart Association. The titles of the lectures were "When Is an Electrocardiographic Examination Indicated and What Sort of Help Can It Give?" and "The Electrocardiographic Diagnosis of Myocardial Infarction."

MICHIGAN

New Health Unit.—The establishment of the Van Buren County Health Department has been made possible by the W. K. Kellogg Foundation. It is expected to begin operation on a full time basis, July 1. The foundation will supply most of the funds, the state the usual annual subsidy of $3,000, and the county office space and equipment.

Society News.—Dr. Andrew B. Rivers, Rochester, Minn., addressed a joint meeting of the medical societies of Ingham, Calhoun and Barry counties, May 14, on ulcers of the stomach.—Dr. Edgar A. Kahn, Ann Arbor, addressed a recent meeting of the Calhoun County Medical Society on "Section of Splanchnic Nerves for Malignant Hypertension."

Health Officer Honored.—Dr. Frank A. Tinker, health officer of Lapeer, was given a banquet by the Lapeer County Medical Association, May 24, in honor of his completion of fifty years in the practice of medicine. Dr. Tinker graduated from the University of Michigan Medical School, Ann Arbor, in 1884 and for the last ten years has been city health officer.

Hospital News.—In commemorating the seventieth year of the ambulatory service of Harper Hospital, a photograph of Dr. Charles G. Jennings, Detroit, was unveiled in the department, May 11. For twenty years the outpatient service has been housed in the Theodore Buhl Memorial Building; it was Dr. Jennings who interested the Buhl family to erect this unit to Harper Hospital. Scientific exhibits on the specialties were arranged on the various floors by the divisions of the hospital.

Personal.—Dr. Roman J. Sadowski was guest of honor at a dinner, May 16, in recognition of his completion of thirty years' practice in Detroit. An engrossed plaque was presented to Dr. Sadowski as a token from the Arts Club, of which he is a past president, while the eighty-five guests at the dinner presented him with a cellarette.—A resolution honoring Dr. Frank A. Kelly was recently adopted by the Wayne County Medical Society, in appreciation of his fifteen years' service as an officer. Dr. Kelly recently withdrew his name for reelection as a member of the board of trustees.

MINNESOTA

Society News.—Speakers before the Minnesota Academy of Medicine in Minneapolis, May 9, were Drs. Harold E. Hullsiek, St. Paul, and Francis F. Callahan, Pokegama, on "The Doctor in Fiction" and "Pulmonary Carcinoma," respectively.

Convicted of Harboring an Outlaw.—Dr. Clayton May, Minneapolis, found guilty, May 23, by a federal court jury of conspiracy to harbor an outlaw, was sentenced to serve two years in prison and fined $1,000. Dr. May is alleged to have treated John Dillinger for a gunshot wound without reporting the incident to the police. An appeal will be entered, the Chicago *Tribune* reported. Born in 1887, Dr. May graduated from Milwaukee Medical College in 1911. He is not a member of the American Medical Association.

MONTANA

Personal.—Dr. Alonzo T. Munro, Kalispell, was elected president of the Montana State Board of Medical Examiners, recently, and Dr. Sidney A. Cooney, Helena, was reelected secretary. Dr. Cooney was also reappointed a member of the board for another seven year term.

State Medical Meeting at Helena, July 11-12.—The fifty-sixth annual meeting of the Medical Association of Montana will be held at the Placer Hotel in Helena, July 11-12, under the presidency of Dr. Byron L. Pampel, Livingston. Dr. Louis H. Fligman, Helena, president of the Lewis and Clark Medical Society, will give the address of welcome, and Dr. William E. Long, Anaconda, vice president of the state association, will respond. The scientific program will consist of papers by the following physicians:

Ernest Sachs, St. Louis, Present-Day Diagnosis and Treatment of Brain Tumors.
Walter A. Fansler, Minneapolis, Surgical and Nonsurgical Treatment of Hemorrhoids.
Dean Lewis, Baltimore, Essentials of a Physician.
Julien E. Benjamin, Cincinnati, Sudden Death and a Consideration of Its Mechanism.
Mynie G. Peterman, Milwaukee, Convulsions in Infancy and Childhood.

On Thursday morning, Dr. Sachs will discuss "Spinal Cord Lesions"; Dr. Fansler, "Cancer of the Colon"; Dr. Lewis, "Cancer"; Dr. Benjamin, "Observations on the Effect of Deep X-Ray Treatment of Agranulocytosis, and the Clinical Effect of Amidopyrine," and in the afternoon Dr. Peterman will conclude the scientific session with a talk on "Epilepsy in Childhood."

NEBRASKA

State Medical Election.—Dr. Claude A. Selby, North Platte, was chosen president-elect of the Nebraska State Medical Association at its annual meeting in Lincoln, May 24, and Dr. Joseph Bixby, Geneva, was inducted into the presidency. Dr. Roy B. Adams, Lincoln, was reelected secretary. The next annual session will be held at Omaha.

Conference on Child Health.—A general survey of pediatrics was presented at a conference on child health and protection in Lincoln, May 18, by Dr. Clyde N. Moore, Omaha. Other physicians participating in the conference included:

Howard B. Hamilton, Omaha, Nutritional Problems.
Floyd S. Clarke, Omaha, Preschool Examination.
William O. Colburn, Lincoln, the Handicapped Child.
Joseph A. Henske, Omaha, Cardiac Clinic.
Ernest W. Hancock, Lincoln, School Health Program.
John H. Murphy, Omaha, Tuberculosis.
Herman M. Jahr, Omaha, The Problem Child.
Palmer Findley, Omaha, Maternity Problems.
Earl C. Sage, Omaha, Maternal Mortality in Nebraska.
Harold S. Morgan, Lincoln, Prenatal Care.
Harry E. Harvey, Lincoln, Lowered Birth Rate.

Society News.—Dr. C. A. Stewart, Minneapolis, was guest speaker at the annual meeting of the Nebraska Tuberculosis Association in Lincoln, May 22, on childhood tuberculosis.—At the semiannual meeting of the Third Councilor District Medical Society in Tecumseh, April 18, speakers included Drs. Harry M. Hepperlen Jr., Beatrice, on "Pathology of Uterine Bleeding"; Edward S. Maloney, Omaha, "Asthma in Children and Adults," and Hiram Winnett Orr, Lincoln, "Fixed Versus Elastic Traction in Fractures."—Three Omaha physicians presented the program of the Sixth Councilor District Medical Society, Shelby, April 11, as follows: Drs. Maurice C. Howard, "Medical Management of Biliary Disease"; R. Russell Best, "Surgical Considerations and the Complications in Gallbladder Disease," and John A. Borghoff, "Eczema—Common

Cause."——Dr. J. Calvin Davis Jr., among others, addressed the Madison-Six Counties Medical Society, Norfolk, April 17, on "Conservative Treatment of Chronic Discharging Ears." ——Dr. Jesse L. Bollman, Rochester, Minn., gave the semi-annual lectures before the Caducean Society of Creighton University School of Medicine, Omaha, May 3-4. His subjects were: "Experimental Studies on Peptic Ulcer" and "Experimental Pathology of the Liver."

NEW YORK

Prize to Dr. Ayer.—The Merritt H. Cash Prize of $100 has been awarded by the Medical Society of the State of New York to Dr. Wardner D. Ayer, Syracuse, for his essay on "Spontaneous Subarachnoid Hemorrhage and Its Relation to the Aneurysm of the Circle of Willis." This is the sixth time the prize has been awarded, although it was established in 1863.

Laboratory for Research in Physiology.—The biological laboratory of the Long Island Biological Association at Cold Spring Harbor, L. I., will open a new laboratory for research in general physiology, September 1, under the direction of Dr. Eric Ponder, now professor of general physiology, New York University. The physiology laboratory will be in the George Lane Nichols Memorial, erected in 1928.

Society News.—Drs. John C. A. Gerster, New York, addressed the Norwalk Medical Society, May 9, on "The American Society for the Control of Cancer"; Herbert R. Charlton, Bronxville, N. Y., on "Organization of a Tumor Clinic in a General Hospital," and George T. Pack, New York, "A Plan of Radium Therapy for Small Hospitals."——Dr. Henry Sage Fenimore Cooper, New York, addressed the Suffolk County Medical Society, West Islip, April 25, on acute conditions in the abdomen.

New York City

Salmon Lecturer Chosen for 1935.—Dr. William Alanson White, superintendent of St. Elizabeth's Hospital, Washington, D. C., has been selected to deliver the Thomas W. Salmon Memorial Lectures at the New York Academy of Medicine, April 12, 19 and 26, 1935. His subjects will be "Psychiatry as a Medical Specialty," "The Social Significance of Psychiatry" and "The General Implications of Psychiatric Thought."

Fellowship Available.—The Women's Medical Association of New York City offers the Mary Putnam Jacobi Fellowship, $1,000 for one year, available for graduate work in the medical sciences, to any woman graduate of an approved medical school. Applications for 1934-1935 should be filed with the secretary of the committee, Dr. Rose Cohen, 36 West Ninetieth Street, by September 1, and accompanied by statements as to health, educational qualifications and proposed problem for investigation.

In Memory of Dr. Williams.—The New York Academy of Medicine held a memorial meeting, April 26, for Dr. Linsly R. Williams, late director of the academy, who died, January 8. Dr. Livingston Farrand, president of Cornell University, reviewed Dr. Williams' life; John H. Finley, Litt.D., editor, the New York *Times*, and Dr. John A. Hartwell, present director of the academy, paid tribute to his achievements and influence. Dr. Bernard Sachs, president of the academy, presided.

Personal.—Dr. Albert A. Berg was honored with a dinner, May 19, in observance of his retirement as attending surgeon at Mount Sinai Hospital after forty years' service.——The trustees of Johns Hopkins University and its medical faculty have selected Dr. Simon Flexner, director of the Rockefeller Institute for Medical Research, to write the biography of the late Dr. William H. Welch.——Dr. George W. Kosmak has been elected chairman of the medical advisory committee of the Visiting Nurse Service, succeeding the late Dr. Linsly R. Williams. Two new members of this committee are Drs. John Wyckoff, dean, New York University, University and Bellevue Hospital Medical College, and Marjorie Lord Strauss Knauth, who has been elected secretary.——Georgetown University, Washington, D. C., conferred the honorary degree of doctor of laws on Dr. Raymond P. A. Sullivan at its one hundred and thirty-fifth annual commencement, June 11.

OHIO

Personal.—Dr. Frank H. Lamb, who has been on leave of absence from the University of Cincinnati School of Medicine for several years, has been made professor emeritus.——Dr. John H. J. Upham, Columbus, dean, Ohio State University College of Medicine, has been reappointed as a member of the state medical board, to serve until 1941; this is his fourth consecutive appointment.——Dr. Wilbert A. Hobbs, East Liverpool, was recently honored at dinner by physicians of Columbiana County, and of Hancock and Beaver counties, Pennsylvania, at Chester, Pa., in recognition of his fifty years in practice.——Dr. Edgar J. March, president of the staff at Aultman Hospital, Canton, was honored with a dinner, recently, celebrating the completion of fifty years in the practice of medicine.

Dr. Bruner Honored.—The Cleveland Ophthalmological Society gave a banquet in honor of Dr. William Evans Bruner, Cleveland, in recognition of his completion of forty years' service as ophthalmologist to the University Hospitals and to Western University School of Medicine. He was also presented with a pair of modeled book ends. Dr. George W. Crile was toastmaster, and speakers included Dr. George E. de Schweinitz, Philadelphia, a former teacher of Dr. Bruner; Dr. Walter R. Parker, Detroit, a classmate; Charles F. Thwing, L.H.D., president emeritus of the university; Dr. Thorald Sollmann, dean of the medical school, and Frederich C. Waite, Ph.D. A graduate of the University of Pennsylvania School of Medicine, Dr. Bruner became affiliated with Western Reserve University School of Medicine as clinical assistant in ophthalmology in 1894. He has been professor since 1915.

OKLAHOMA

Society News.—At a meeting of the Woodward County Medical Society, Shattuck, April 10, speakers were Drs. James Floyd Moorman, Oklahoma City, Roger L. Hickman and Ellis Lamb, Clinton, on tuberculosis; Charles R. Silverthorne, Woodward, chest injuries, and Jesse J. Davis, Higgins, Texas.

State Medical Election.—Dr. Louis H. Ritzhaupt, Guthrie, was chosen president-elect of the Oklahoma State Medical Association at its annual meeting in Tulsa in May. Dr. LeRoy Long, Oklahoma City, was installed as president, and Dr. Leonard S. Willour, McAlester, was reelected secretary. The next annual session will be held at Oklahoma City.

PENNSYLVANIA

Hospital News.—Three Delaware County hospitals recently received appropriations from the county for care of the indigent. Chester Hospital received $21,600; Taylor Hospital, Ridley Park, $7,080, and Delaware County Hospital, Upper Darby, $7,560. An additional appropriation of $20,000 was made for the care of tuberculous patients through the Delaware County Tuberculosis Society.

Philadelphia

New Society.—The Philadelphia Metabolic Association was recently organized for interchange of modern conceptions of metabolism. At the first meeting, May 2, Dr. Edward L. Bortz presided and Dr. Elliott P. Joslin, Boston, gave an address on diabetes.

RHODE ISLAND

Society News.—The annual banquet of the Pawtucket Medical Society was held in Providence, March 15. Dr. Stanley Sprague was toastmaster and the principal speaker, Prof. James H. Shoemaker, assistant professor of economics, Brown University, who discussed current events in Japan and Russia.

Summer Round Up Omitted.—The summer round up clinics for the examination of preschool children will not be held this year, in accordance with an agreement of the Providence School Department, the Parent-Teachers Association and the Providence Medical Association. Efforts will be made instead to have the children examined by their own physicians.

TENNESSEE

Personal.—Dr. James C. Gardner, Nashville, has been appointed physician to the Tennessee state penitentiary. Dr. Theodore Morford will succeed Dr. Gardner as physician to the Tennessee Industrial School. Dr. Gardner succeeds Dr. William Albert Sullivan.

Health at Memphis.—Telegraphic reports to the U. S. Department of Commerce from eighty-six cities with a total population of 37 million, for the week ended June 9, indicate that the highest mortality rate (20.2) appears for Memphis, and that the rate for the group of cities as a whole was 11.4. The mortality rate for Memphis for the corresponding period last year was 16.5 and for the group of cities, 11.1. The annual rate for eighty-six cities for the twenty-three weeks of 1934 was 12.3 as against a rate of 11.7 for the corresponding period of the previous year. Caution should be used in the interpretation of these weekly figures, as they fluctuate widely. The fact that some cities are hospital centers for large areas outside

the city limits or that they have a large Negro population may tend to increase the death rate.

Society News.—Drs. Buel L. Ashmore and Joel J. Hobson addressed the Memphis and Shelby County Medical Society, May 1, on pernicious anemia and vitamins, respectively.——Among speakers at the semiannual meeting of the Middle Tennessee Medical Association in Springfield, May 10-11, were Drs. William D. Haggard, Nashville, on cancer of the rectum; Robert Bernard Gaston, Lebanon, president of the association, lymphangitis, and John R. Gott, Murfreesboro, bronchial asthma.——Drs. Carl W. Brabson, Telford, and Edward T. West, Johnson City, addressed the Washington County Medical Society, May 3, on "Diagnosis of Acute Indigestion and Appendicitis" and "Operative Results in Hernia," respectively. ——Speakers at the annual session of the West Tennessee Medical and Surgical Association in Jackson, May 10, included Drs. Virgil E. Simpson, Louisville, Ky., on diabetes mellitus; Horton R. Casparis, Nashville, sequelae of the exanthems, and Richmond McKinney, Memphis, causes of esophageal stricture. Dr. George A. Brandon, Lexington, was elected president.

WEST VIRGINIA

Society News.—Speakers before the Kanawha Medical Society in Charleston, May 8, were Drs. Hugh G. Thompson and Moritz F. Petersen, Charleston, on "Diabetes in the Adult" and "Diabetes in Children," respectively.——At a meeting of the Central West Virginia Medical Society in Summersville, May 2, Drs. Martin L. Bonar, Morgantown, spoke on "Skin Troubles of Youth," and George F. Grisinger, Charleston, on "Diagnosis and Treatment of Liver and Bile Tract Infections."——Dr. Richard O. Rogers, Bluefield, presented a paper on "Agranulocytic Angina" before the joint meeting of the Mercer and McDowell County medical societies at Welch, May 9.——Dr. Howard G. Weiler, Wheeling, discussed "Orthopedic Surgery for the Practitioner" at a meeting of the Marshall County Medical Society, April 17.——Speakers before the Tyler-Wetzel Bi-County Medical Society in New Martinsville, May 11, were Drs. Grover C. Weil, Pittsburgh, and John P. Henry, Pittsburgh, on fractures and injection treatment of varicose veins, respectively.

WISCONSIN

Dr. Miller Awarded Trudeau Medal.—Dr. William Snow Miller, emeritus professor of anatomy, University of Wisconsin School of Medicine, Madison, was awarded the Trudeau Medal of the National Tuberculosis Association at its annual meeting in Cincinnati, May 17, in recognition of his research in the anatomy of the lung and chest. Dr. Miller graduated from Yale University School of Medicine in 1879. From 1889 to 1892 he served as pathologist to City and Memorial Hospitals in Worcester, Mass., and from 1882 until 1924 he was affiliated with the University of Wisconsin in various teaching capacities. He is the author of numerous papers on the anatomy of the organs of respiration, anatomic relations of pulmonary tuberculosis, anomalies of the pancreas and medical biography. Dr. Henry Kennon Dunham, Cincinnati, was elected president of the National Tuberculosis Association at this meeting.

GENERAL

Institute for Hospital Administrators.—Lectures, round table discussions, seminars and conferences will make up the two weeks institute for hospital administrators in Chicago, September 10-22. Sessions will be held at Judson and Burton Courts, dormitories of the University of Chicago. Information may be had from the executive secretary of the American Hospital Association, 18 East Division Street, Chicago.

Medical Bills in Congress.—*Changes in Status:* S. 433 has passed the Senate, directing the retirement of acting assistant surgeons of the United States Navy at the age of 64 years. S. 822 has passed the House, authorizing the Postmaster General to permit the transmission in the mails of poisonous drugs and medicines to cosmetologists and barbers. H. R. 1766 has passed the Senate, providing for retired employees of the United States disabled by injuries sustained in the performance of their duties such medical service as may be necessary on account of their injuries.

Dana Medal Awarded to French Ophthalmologist.—The Leslie Dana Gold Medal, awarded annually by the National Society for the Prevention of Blindness in cooperation with the St. Louis Society for the Blind, was presented to Dr. Felix-Joseph de Lapersonne, Paris, at the meeting of the International Association for Prevention of Blindness in Paris, May 14. Dr. Lapersonne is president of the association. Dr. Francis Park Lewis, Buffalo, vice president of both the international association and the national society and a former winner of the medal, made the presentation. Dr. Lapersonne is the second European to receive the award; Dr. Ernst Fuchs, Vienna, received it in 1929.

Society News.—Dr. George Gilbert Smith, Boston, was chosen president-elect of the American Urological Association at its annual meeting, June 1, and Dr. Miley B. Wesson, San Francisco, was inducted into the presidency. Dr. Gilbert J. Thomas, Minneapolis, was reelected secretary.——At the annual session of the American Gynecological Society in May, Dr. Brooke M. Anspach, Philadelphia, was chosen president and Dr. Otto H. Schwarz, St. Louis, reelected secretary.——Dr. Walter R. Steiner, Hartford, Conn., was chosen president of the American Clinical and Climatological Association at its annual meeting, May 22, and Dr. Francis M. Rackemann, Boston, reelected secretary. The next annual session will be held at Princeton, N. J., Oct. 21-23, 1935.

Association of Private Psychiatric Hospitals.—The National Association of Private Psychiatric Hospitals was organized in New York, June 1, with Dr. Hubert Work, formerly Secretary of the Interior of the United States, and a former president of the American Psychiatric Association, as honorary president. Dr. John J. Kindred, New York, was named president. Other members are Drs. Thomas P. Prout, Summit, N. J., vice president; Frank H. Barnes, Stamford, Conn., assistant secretary. Drs. James Percy Hickling and Walter Freeman, Washington, D. C., the original incorporators, were elected honorary vice presidents. The purposes of the association, which has been incorporated under a federal charter in the District of Columbia, are:

> The mutual protection of privately owned psychiatric hospitals; cooperation and unity of action in all policies affecting the interests of private psychiatric hospitals; to engage in the study of subjects pertaining to mental diseases and defects, including the care, treatment and promotion of the best interests of the insane, epileptic and feebleminded and allied cases; to engage in, foster and develop research for the advancement and furtherance of the knowledge of such subjects; to publish such journals or other publications as may be necessary or desirable, and, in general, to do any and all things necessary and incidental to furthering the objects of the association.

Homicides in 1933.—A study of the death rates for homicide in 178 American cities for 1933 shows an average rate of 10.4 per hundred thousand of population, the same as in 1932. Lexington, Ky., had the highest rate, 59.5 per hundred thousand, followed by Little Rock, Ark., with 52.5 and Memphis, with 50.8. Of the five largest cities, Chicago had the highest rate, 14.2, and the other cities were Detroit, 7.4; Los Angeles, 7.6; New York, 7.4, and Philadelphia, 6.7. All except Chicago showed decreases from 1932. Frederick L. Hoffman, LL.D., consulting statistician, who prepared the report, found that in thirty-one cities for which figures since 1900 were available, the homicide rate has risen from 5.1 pe. hundred thousand in that year to 10.7 in 1933. Comparison with rates in other countries shows that the United States has the highest murder rate of any great civilized country. Other rates cited by Dr. Hoffman are as follows: Germany, 2 per hundred thousand; Estonia, 6; France, 1; Greece, 5; England and Wales, 0.5; Scotland, 1; Netherlands, 0.5; Norway, 1; Austria, 3; Portugal, 2; Sweden, 1; Switzerland, 2; Spain, 1, and Czechoslovakia, 3. Three factors contribute to this situation, in Dr. Hoffman's opinion. They are possession of deadly concealable weapons on the part of the population, distribution of crime literature, and long drawn out criminal trials, in which conviction takes place months after the crime or the criminal goes entirely free.

Government Services

Death of Dr. Houck

Ulysses G. Houck, D.V.M., for thirty-eight years a member of the staff of the Bureau of Animal Industry, Department of Agriculture, and associate chief since 1928, died of Hodgkin's disease, April 24, aged 68. For the past sixteen years Dr. Houck had directed the division of hog cholera control. During the 1924 outbreak of foot-and-mouth disease he was in charge of the federal and state forces that eradicated the disease. He is said to have been a pioneer in the organization of government meat inspection service. He was the author of a historical sketch of the accomplishments of the bureau.

Miss Abbott Resigns from Children's Bureau

Miss Grace Abbott, for thirteen years chief of the children's bureau, Washington, D. C., has announced her resignation, effective July 1. Miss Abbott will go to the University of Chicago to become professor of public welfare administration.

Foreign Letters

LONDON

(From Our Regular Correspondent)

May 26, 1934.

The Medical Service in the Army and Navy

As stated in previous letters, the pay of medical officers in the army and navy compared badly with the prospects of civilian practice, producing difficulty of recruitment. A committee was therefore set up by the government to investigate the causes of shortage of officers and nurses to make recommendations, which have now been adopted. The position of medical officers has been considerably improved, not by increasing the pay of the various ranks but by accelerating promotion and also lengthening the period of permanent commissions, so that men can retire at a higher rank than formerly and so qualify for a higher pension. This change is brought about by a short service system. In the army, all entrants will receive short service commissions and after five years will have the choice of retiring with a gratuity of $5,000 or applying for a permanent commission. The result will be that officers in the permanent service will spend a greater part of their career in the higher ranks than formerly. An officer who joins at 25 and is granted a permanent commission is guaranteed that he will be a captain at 26 and a major at 35, instead of at 28½ and 37 as at present. Further, the career of a medical officer will be lengthened and will normally extend to the age of 57. The new rates of pay for the various ranks do not differ much from the old ones, being less in some cases and greater in others. They are: lieutenant, $1,780; captain, $2,190; major, $3,040; lieutenant colonel, $4,670 (at the age of 42) and $5,080 (at the age of 48); colonel, $5,690. The number of specialist posts, which carry increased pay, has been increased.

In the navy, all entries will also be on a short service basis, preferably at the ages of 24 to 28, for three years, to be extended to five at the discretion of the admiralty. After three years, officers on leaving will be eligible for a gratuity of $2,000 and, after five years for one of $5,000. Transfer to the permanent list will be at the admiralty's discretion on completion of five years short service. A gratuity of $5,000 will then be paid, but the officer will be required to render a minimum of twenty-five years' service in order to quality for full pension. Officers retiring with less service will be entitled only to gratuities or retired pay reduced pro rata. The number of specialist posts carrying increased pay has been increased from sixty to eighty-three, and increased facilities are provided for postgraduate study. The age of retirement has been increased for surgeon commanders from 50 to 55 and for surgeon captains from 55 to 57. The number of surgeon captains has been increased from twenty to thirty-three.

Secret Drug Factories in the Near East

At a meeting of the League advisory committee on the traffic in opium and other narcotics, Russell Pasha, chief of the department of the Egyptian police for the control of drug traffic, said that in the last five years there had been improvement in Egypt in the control of narcotics. There was not so much smuggling of morphine, diacetylmorphine and cocaine from western Europe. These drugs now came principally from Greece, Turkey, Palestine, Syria and the Far East. There were also certain mysterious illicit centers in Turkey, some Bulgarian factories and a factory in the Far East. There were in Syria stocks of more than 8 tons of hashish. But it was Turkish and Bulgarian hashish that was most sought after. There was a strong demand for opium in Egypt, but a law was about to be promulgated with regard to it. Russell Pasha particularly drew attention to the situation in Bulgaria, where there are ten secret factories and the cultivation of opium has considerably developed. He was thanked for his voluminous report, which indicated the great and effective efforts made in Egypt to combat the scourge of drugs. Extraordinary revelations were made as to Bulgaria's activities. It was estimated that the illicit output of ten heretofore secret Bulgarian factories is not less than 3,000 Kg. of diacetylmorphine, an amount twice that necessary for the medical requirements of the world and sufficient to poison 3 million persons. The United States delegate, Mr. Stuart Fuller, gave the result of recent investigations into the uses of acetic anhydride, which is used in the manufacture of certain dyestuffs, acetylsalicylic acid, rayon and diacetylmorphine. In a country that did not produce the first three substances it could be concluded that acetic anhydride was imported for the manufacture of diacetylmorphine. Investigations showed that in the last four years Bulgaria imported about 21,200 pounds of acetic anhydride, mostly from Germany, from which at least 10,600 pounds of diacetylmorphine could be manufactured. Russell Pasha stated that drug addiction did not exist in Bulgaria, but that the country was the one source in Europe of the wholesale manufacture of diacetylmorphine.

The Controversy About Pasteurized Milk

The controversy on the pasteurization of milk, described in previous letters, has been continued in the *Times*. A. Bradford Hill, W. W. Jameson and W. W. C. Topley of the London School of Hygiene and Tropical Medicine reply to the argument that in a population of 9,000,000 children in this country under the age of 15 only about 4,000 cases of bovine tuberculosis occur annually, or one case in 2,200 children per annum. The proportion of children who eventually suffer must be much higher. It can be estimated that between one in 100 and one in 200 children develop the disease before the age of 15. Milk-borne diseases other than tuberculosis are by no means as negligible as the opponents of pasteurization state. Between 1912 and 1931 there were reported at least eighty-one outbreaks of various diseases due to milk. In 1929 there occurred a severe epidemic of septic sore throat involving more than 1,000 families, with sixty-five deaths, and in 1931 an outbreak of 312 cases of paratyphoid fever, with six deaths. Another sporadic infection due to milk is undulant fever.

Dr. L. H. D. Thornton, consulting pathologist, Wilts County Council, has found in his examination of children who have died from extraneous causes that at least 30 per cent show definite enlargement of the mesenteric glands. He has investigated these glands and found that their enlargement is due to living tubercle bacilli, though during life no ill effects are evident and many of these children are well nourished. These evidences of tuberculosis are present intermittently during childhood, the battle swaying to and fro, the glands sometimes enlarged and sometimes quiescent until eventually immunity is developed. Thus the great majority of infants are susceptible to bovine tuberculosis, while the great majority of adolescents are not. This development of immunity appears to be due to casual intermittent ingestion of tubercle bacilli. It may therefore be asked, Why sterilize milk? The answer is that in this rendering immune of the community a needless number will die. The susceptibility of certain children is due to several factors. But an additional factor is the massiveness of the dose. Thornton has found that the number of tubercle bacilli in infected milk varies enormously. The danger to the individual arises when a single cow happens to be excreting bacilli in enormous numbers. In the present state of knowledge, the only safe policy is to insist that milk shall not contain an undue proportion of tubercle bacilli. This can be done only by veterinary supervision or pasteurization. Thornton thinks

that it may be ultimately possible to supply a milk first sterilized by heating and then reinforced by vitamins and with some lowly strain of tubercle bacilli added, such as that used by Calmette, to produce immunity.

Leprosy in Great Britain

Presiding at the annual meeting of the Home of St. Giles for British lepers, the dermatologist Dr. J. M. H. MacLeod said that it was realized by few that cases of leprosy still occurred in this country. It was not possible to obtain exact figures, but estimates ranged from 50 to 100. The majority were persons who came from abroad with definite symptoms of leprosy or developed them later. There were also a few contact cases in which infection had occurred in this country, but none of these had been among those attending the patients. The Homes were dependent on voluntary contributions and received nothing from the government.

The Planning of Hospitals

An expert regional survey of the necessities of the country with regard to hospital accommodations has been made by a special committee of the Royal Institute of British Architects. The committee was appointed to submit evidence on the cost of hospital buildings to the Ministry of Health. It considers that by proper correlation of general and special hospitals, combined with an expert survey of town and country districts, much unnecessary expenditure might be saved and standardization in construction, equipment, and administrative services should result. The desultory rebuilding of hospitals on existing or adjacent sites is not always a practical proposition, and expert guidance should be readily available for hospital boards before large additional expenditure is incurred. Hospitals near one another should be asked to consider amalgamation, or at least the joint use of special departments.

The report endorses a recommendation of the British Subcommittee on Hospital Costing, presented to the International Hospital Association last June, that the hospital theater unit should be placed in one suite on the top floor of the building, and also the opinion that the sights and sounds of operations are not encouraging to other patients. Other points are as follows: No ward should contain more than sixteen beds. A day room with a sun balcony is essential. The psychologic effect of an open fire is urged by many physicians as of value in wards and day rooms. The matron should not have her suite of rooms in the nurses' home, for it is not part of her duty to police the nurses.

Tests for Automobile Drivers

The Committee of the House of Commons that is considering the road traffic bill discussed clauses dealing with disqualification of offending drivers. Sir Ernest Graham-Little (dermatologist) moved an amendment that an applicant for a driving license must pass a prescribed examination for fitness and subsequently a test of competence to drive. He described the results of researches by experts on accidents in factories that showed the importance of the human factor. This factor was as important on the road. The tests were to determine capacity to respond to an emergency, ability to judge distances and speeds accurately and rapidly, and vision. The technic of the application of the tests could be learned in two weeks and the tests could be applied by those experienced in driving.

Mr. Stanley, minister of transport, said he was not in the least detracting from the value of the experiments already made or the possibility of better results in the future when he asked the committee not to accept the amendment. The experiments showed clearly the possibility of selecting the better drivers, but the suggested tests would not enable one to determine whether a man who had not been in a car would be a safe driver. The Medical Research Council, after making extensive experiments, informed him that the tests to distinguish between the good driver and the less good driver had proved useful, but that they did not determine whether a man was to be allowed to go on the road. He would continue to watch the future of the experiments. The amendment was negatived.

A University Department of Industrial Medicine

The specialization and increase of departments of medicine seem to have no end. The latest is the opening of a department of industrial hygiene and medicine in the University of Birmingham, which will take place October 1. The need has been felt for a university department that would undertake research in the application of medicine to industry and train physicians who are officers in industrial organizations or desire to qualify for these posts. The extraordinary variety of industries carried on in Birmingham render its university particularly suitable for this purpose. The injurious effects that may be produced on the workers by dust and emanations and by other causes, and their prevention, will be investigated. Physicians will be trained to advise employers as to the methods by which certain types of accident can be reduced, the best way of treating them and the selection of employees for the kind of work for which they are physically suited, and as to the improvement of the hygiene of factories. The university will probably institute a diploma in industrial hygiene.

The Robert Jones Memorial

A national memorial to Sir Robert Jones is being promoted by leading men in the medical profession and in public life. The president is Lord Derby, under whom, as minister of war, Jones rendered his services to the wounded. The memorial is designed to commemorate the life and example of one who became a national figure; one who, after centuries of ignorance, brought knowledge and devotion to the crippled child. It is also intended to sustain his tradition and to ensure, by research and adherence to his principles and ideals, the ultimate victory over the preventable and curable diseases, which should cease to add to the suffering of mankind. It is pointed out that to Jones is due the development of orthopedic surgery from a limited branch to one which during the war covered no less than 70 per cent of the surgical cases. The war gave him his great opportunity. He was in charge of no less than 33,000 beds and was the means of saving the empire a vast number of lives and preventing an enormous amount of crippling. After the war he organized the treatment of civilian cripples, both children and adults. The national memorial is to take the form of a Robert Jones professorship in the Royal College of Surgeons; a Robert Jones traveling fellowship, to be awarded alternately by the Royal College of Surgeons and by the University of Liverpool (the city where Jones practiced) and the Liverpool Medical Institute; a Robert Jones national trust, to ensure financial aid for orthopedic centers or institutions.

Tax on Insulin Removed

The protest aroused by the imposition of a 33 per cent tax on imported insulin was reported in THE JOURNAL, April 7, page 1168. The scandal of this tax proved too much for it and the duty was removed almost as soon as it was passed. In the house of commons the minister concerned argued that duties did not mean an increase of price and pointed out that the price of British insulin had fallen since the imposition of the tax to 44 and 34 cents per hundred units in the case of two firms. It is now announced in the house of commons that the price of British insulin and of one brand of imported insulin has been reduced still further to 32 cents. The abolition of the duty has been done quietly, almost by stealth. The *Star*, which vigorously denounced the duty, emphasized the scandal that poor persons, already handicapped by diabetes, should be compelled to pay more than is necessary for insulin.

PARIS

(From Our Regular Correspondent)

May 2, 1934.

Research on Various Metallic Bone Sutures

The variable results of suturing bones with metal devices have given rise to diverse interpretations. Rarefying osteitis often develops at the points of contact of wire and renders coaptation defective. Pseudarthroses may develop. That the toxic action of metals hinders the regeneration of the bone tissue cannot be doubted, for if the wire is removed in time the symptoms of necrosis cease. P. Ménégaux, P. Moÿse and D. Odiette have studied the effects of different metals on cultures of bone tissue and connective tissue in vitro, in accordance with the Carrel method. Ménégaux and his co-workers used an 8-day-old chicken embryo; fibroblasts were obtained from a fragment of the heart, and osteoblasts from the leg bone. These were cultivated in chicken blood coagulated by a drop of extract of chicken embryo and containing the trephones indispensable for the maintenance of the culture. The tissue is cultivated at first for fifteen days, with successive transfers, in the incubator at a temperature of 38.5 C. At this time one secures pure cultures of both tissues. Later the cultures are placed in glass cupules with a metal disk on the bottom, and the experiments are continued. By measuring the rate of growth it is easy to follow the variations in the culture according to the metal employed, the examination being made with the microscope. Ménégaux extended his experiments to twelve metals (iron, gold, copper, zinc, silver, aluminum, magnesium, lead, tin, nickel, tantalum and tungsten) and to twenty-one alloys, eight with an aluminum base, and thirteen varieties of steel. The metal disks were $^{10}/_{13}$ mm. in diameter and 0.25 mm. in thickness and were obtained from a punching press. The results of these experiments were the following: The effects of a metal were exactly the same for the cultures of fibroblasts and of osteoblasts. The metals were divided, according to the results, into (1) very toxic, (2) slightly toxic and (3) indifferent. The very toxic metals arranged in descending order were copper, magnesium, iron, aluminum bronze and soft steel. The first two produce an immediate cessation of growth and cellular migration. After twenty-four hours, all transfers of cultures remain sterile. Magnesium dissolves gradually, with liberation of bubbles of hydrogen and the production of hydroxyl and magnesium carbonate. These salts, moreover, when employed alone, have the same inhibitive action on the cultures. In the rat, a disk of magnesium placed under the periosteum of a long bone creates a focus of necrosis. The other metals of this group (iron, aluminum bronze and soft steel) do not check growth entirely, although it is greatly retarded. The rate of growth is 150 times less than in the control cultures having no metal. It is evident, therefore, that soft steel wire and aluminum bronze wire are not suitable materials for bone sutures. In the second group (zinc, silver, tantalum, tin, nickel and tungsten) the toxicity follows in decreasing order as named. The rate of growth is about one-third that observed in the controls. In the third group are the harmless metals (gold, aluminum and lead) and the metal alloys. Duralumin appears to be the best adapted for bone sutures, as it has no action on the regeneration of the fibrous tissues; likewise the three inoxidizable steels V2A extra, Nicral D and Platinostainless D are good. They do not inhibit the growth and the migration of osteoblasts and fibroblasts in vitro.

Deaths

Dr. Cazeneuve of Lyons has died at the age of 82. He had been professor at the Faculté de médecine de Lyon and was known for his research in organic chemistry and industrial hygiene. He was an associate member of the Academy of Medicine. He was prominent also in politics. He became deputy and later senator for the district of Lyons and took an important part in the enactment of laws pertaining to hygiene. During the war he was called on to give advice in regard to explosives. His last researches dealt with the danger of using compounds with a lead or arsenic base as parasiticidal products in agriculture.

The death of Dr. Retterer, associate professor of histology at the Faculté de médecine de Paris, at the age of 88, is announced. He was the last surviving pupil of Mathias Duval and was the author of numerous histologic studies on hematopoiesis, odontogenesis, connective tissues, grafts of tissues and organs. He was a highly conscientious laboratory worker.

Dr. Octave Monod, surgeon to the Curie Radium Institute in Paris, has died suddenly at the age of 57.

BERLIN

(From Our Regular Correspondent)

April 30, 1934.

Revision of Regulations Pertaining to Vaccination

The federal vaccination law of 1874 is to be revised. But as the revision cannot be completed before the beginning of the next vaccination period, the federal minister of the interior has requested the governments of the various *länder* to accept and apply in advance the new points of view of the vaccination problem concerning which there is essentially common accord. The main point is that in every case before vaccination is ordered an inquiry must be instituted to discover whether the person concerned can be vaccinated without endangering his health. In this revision of the vaccination law no provision is made for postponing vaccination for conscientious scruples. The new regulations provide that public vaccination shall be carried out in special vaccination centers. In place of four incisions, as formerly, now only two are made. Likewise the length of the vaccinal incisions has been changed. The former regulations established the length of the incision as up to 1 cm.; but the new regulations provide for an incision only 3 mm. in length. The parents, foster parents or guardian of the vaccinated children may at any time consult the vaccinating physician and secure gratuitous advice in case, after the observation period, they note special manifestations in the persons vaccinated.

Health Insurance Associations (Krankenkassen)

For years there have been complaints that some members of the health insurance associations (krankenkassen) unjustifiably use their insurance to make immoderate demands on the time of physicians. Various measures have been introduced to establish norms for the economical use of medicines. However, since the political upheaval, the chairman of the Allgemeine Ortskrankenkasse in Stuttgart has reported that an improvement in the morale of members of the krankenkassen has been generally observed. The administrations of the krankenkassen should show their appreciation of the improved attitude of the members. He pointed out that the insured members who still make unjustified demands on the krankenkassen might be dealt with in a different way than in the manner heretofore in vogue. The Stuttgart local krankenkasse has entered into an agreement with the larger industries to establish a closer relation between the local krankenkasse and the various industries. According to this agreement, the head of the welfare service in each industry must constantly advise with the local krankenkasse concerning the conditions affecting the members. He must inform the krankenkasse when an industrial worker is in need of a rest cure or other prophylactic treatment, and he must report to the local krankenkasse the names of persons who require special treatment.

ITALY

(From Our Regular Correspondent)

April 30, 1934.

The Piedmont Surgical Society

The Società Piemontese de chirurgia met recently in Turin under the chairmanship of Professor Uffreduzzi. Manca and Biolato spoke on postoperative thrombosis. On the basis of research on cadavers, the speakers hold that the frequency of venous thrombosis is due to retardation of the blood stream and particularly to the crossing of the left iliac vein by the right iliac artery and of the homolateral external iliac vein by the left hypogastric artery. The compression is favored by the projection formed by the fifth lumbar vertebra.

Grégoire, clinical surgeon of Paris, described the remote results of splenectomy in hemogenia. He stated that splenectomy is applied as a therapeutic intervention in accordance with the theory of Kaznelson, who regarded the diathesis as due to thrombopenia resulting from an exaggerated destruction of elements in the spleen. The observations of the speaker and of others have evidenced a rapid increase of the blood platelets within a few minutes of the intervention. Professor Grégoire emphasized the fact that the operation does not permanently cure the hemorrhagic diathesis, for while the platelets are temporarily increased they drop again to low figures, even below normal.

During the discussion, Professor Ceconi reported the history of a boy on whom splenectomy was performed by Professor Uffreduzzi more than eight years ago. He cast doubts on the belief of many others that the disease is of a constitutional nature. Because thrombopenia exists after the intervention, Professor Ceconi thinks that in these cases there is a peculiar fragility of the vessel walls.

Dr. Griva obtained in a man, aged 26, no improvement from splenectomy. The case resulted fatally, and at necropsy an accessory spleen was found.

Professor Fasiano reported a cure of hemogenia, which had continued for more than six years.

Professor Morpurgo reported on 109 tumors of the thyroid examined histologically at the Centro tumori in Turin. According to the classification of Quervain and Wegelin, tumors were divided into: colloid and cystic goiters, sixty; juvenile adenomas, eleven; colloid goiter (metastasis), one; proliferative langerhansian goiter, four; papillomatous adenoma, twelve; carcinoma, sixteen, and sarcoma, five. The small number of proliferative goiters was due to the fact that the plains and many valleys of Piedmont are immune to endemic goiter.

NETHERLANDS

(From Our Regular Correspondent)

April 26, 1934.

The Menace of Tuberculosis in Teachers

For years, a regulation has been in force allowing teachers affected with pulmonary tuberculosis to undergo treatment not exceeding two years in a sanatorium. In some instances teachers have resumed their positions before being cured, and in other cases teachers who were actually cured have not been allowed to return to their work.

Recently two new examples of bacillary infection among pupils have been traced to teachers. The children were subjected to a clinical and radiologic examination, and the results were startling. Sixty per cent of the children had evolutional pulmonary tuberculosis, the incidence being particularly high in the lower classes. The teacher was in the habit of coughing, and in the sputum were numerous tubercle bacilli. It might be alleged that this high percentage of tuberculous children was due to chance and not to contagion. However, the examinations showed in this instance that all the children were affected with grave evolutional tuberculosis. It was, moreover, the gravity of the symptoms that attracted the attention of the attending physician and caused him to make an inquiry. Although all the circumstances seem to point to infection through direct contact with the teachers, the results of other inquiries must be awaited before any definitive conclusions can be drawn. The government has under consideration regulations requiring teachers to be examined from time to time. Those who are found to be ill will be admitted to a sanatorium for a period of from two to three years, for treatment. The detection of cases will be left to the school physician or to the consultation center of the district, where the teachers would be subjected to a radiologic examination. The teachers would be reexamined every year. Another prophylactic measure is needed, which consists in examining the children and the teachers before admission to a school.

Weil's Disease

Eijkel, the head of the public health service, has sent to physicians a circular letter dealing with the detection and treatment of Weil's disease. In 1932, 207 cases were diagnosed, sixteen of which proved fatal. On the appearance of the disease, one should use every endeavor to prevent toilet waters from being contaminated by the urine of rats. The minister of the interior has sent to the mayors of communes an official leaflet describing the measures to be taken. An early diagnosis is desirable, owing to the great chances of the success of serotherapeutic treatment instituted during the first few days. One should not await the results of the blood examination before giving an injection of serum. The serum, derived from the rabbit or the horse, may be secured in sufficient quantities from the Royal Institute of Serology in Utrecht. Horse serum is considered preferable, rabbit serum being reserved for patients who have already had injection of horse serum for other disorders. From 40 to 60 cc. is injected subcutaneously; the same dose may be repeated the following days. Afterward the treatment will consist in improving the diuresis by means of the dextrose-insulin method.

The Meat of Tuberculous Cattle

A supplementary memorandum concerning slaughtered tuberculous cattle has recently gone into effect. The whole carcass is destroyed if the animal had become much emaciated before being slaughtered. The meat is regarded as good, after sterilization, when there appears to have been a recent infection or a localized focus. The glands and other localized areas of infection are excised and destroyed. The association of the directors of the communal abbattoirs of the Netherlands adds that the animal will be discarded if there is disseminated tuberculosis in the muscles, which is found particularly after miliary tuberculosis or meningitis. According to Hoefnagel, one may regard tuberculosis as generalized when the organs that can be reached only by the greater circulation are involved.

The Medical Convention

At the Scientific and Medical Convention of the Netherlands, which opened under the chairmanship of Professor Van Uven, Prof. L. Bouman, the first speaker, discussed in a general way the subjects "biology" and "psychopathology." W. E. Hess described the sequels of epidemic encephalitis. Encephalitis causes disorders in the structure of the brain, and one can establish a connection between the structure and the psychic symptoms observed. The subjective symptoms should be established simply from the psychopathologic point of view. Dr. G. A. Kreuzwendedich von dem Borne gave the results of his research on Addison's disease. Using an extract of the suprarenal cortex, he secured good results. The dosage of the extract and the renal deficiency in Addison's disease were considered in detail.

Marriages

CLARENCE GEORGE OCHSNER, Wabasha, Minn., to Miss Anita Josephine Bouquet of Caledonia, June 9.

STERRETT ERNEST DIETRICH, Ingram, Pa., to Miss Eleanore Elizabeth Carter of Allison Park, June 9.

ROBERT B. KARN JR., Clayton, Mo., to Miss Helen Marie Brueggeman of St. Louis, April 21.

EDWARD EISENBERG to Miss Charlotte Adland, both of Milwaukee, March 25.

JAMES R. DES PORTES to Miss Lila Parker, both of Fort Mills, S. C., April 28.

JOE THORNE GILBERT, Austin, Texas, to Miss Ailine Burch of Houston, April 12.

JOHN EWING DUNN, Smithland, Ky., to Miss Louise Rouse in Paducah, April 20.

CALVIN BASIL FAUSSET to Miss Helen Brooks, both of Indianapolis, May 20.

JOHN K. BULLOCK, Jackson, Miss., to Miss Mary Lewise Mayer, April 28.

GEORGE W. BEELER to Mrs. Emma Graham, both of Seattle, April 28.

Deaths

James Edwin Houghton ● Surg. Lieut. Commander, U. S. Navy, Washington, D. C.; George Washington University Medical School, Washington, 1917; entered the navy in 1917; fellow of the American College of Physicians; professor of hygienic and preventive medicine at his alma mater, 1924-1927; lecturer on tropical medicine, Jefferson and Hahnemann Medical schools, Philadelphia, 1931-1932 director of laboratories, department of sanitation and beneficence and medical director, National Leprosarium, Dominican Republic, 1921-1923; chief of the division of laboratories and instructor in tropical medicine and parasitology, U. S. Naval Medical School; aged 42; died, May 3.

Seymour D. Van Meter ● Denver; University of Pennsylvania School of Medicine, Philadelphia, 1889; formerly secretary of the state board of medical examiners; past president of the American Association for the Study of Goiter and the Denver City and County Medical Society; aged 68; consulting surgeon to the Children's Hospital, Beth Israel Hospital and St. Luke's Hospital where he died, February 27, of a malignant condition affecting the lumbar region of the spinal column.

Edward Frederic Glaser ● San Francisco; Cooper Medical College, San Francisco, 1895; member of the Pacific Coast Oto-Ophthalmological Society; for nearly eighteen years member of the state board of health; for many years member of the board of directors of the National Association for the Prevention of Blindness; aged 68; died, May 9, in the Stanford Hospital, of lymphosarcoma.

Elizabeth Delia Dixon Carroll, Raleigh, N. C.; Woman's Medical College of the New York Infirmary for Women and Children, New York, 1895; member of the Medical Society of the State of North Carolina; professor of physiology and college physician to the Meredith College; aged 62; died, May 16, in a local hospital, of injuries received in an automobile accident.

George Wood Harrison, Ashland, Wis.; College of Physicians and Surgeons of Chicago, School of Medicine of the University of Illinois, 1911; past president of the Ashland-Mayfield Iron Counties Medical Society; on the staff of the Ashland General Hospital and St. Joseph's Hospital; aged 48; died, April 29, of cardiorenal disease.

John Marsham Ropp ● Roanoke, Va.; Vanderbilt University School of Medicine, Nashville, Tenn., 1891; University of Nashville (Tenn.) Medical Department, 1891; aged 66; on the staff of the Roanoke Hospital, where he died, April 29, of spinal meningitis following injuries received in an automobile accident.

Victor Mravlag, Elizabeth, N. J.; University of Vienna Faculty of Medicine, Vienna, Austria, 1872; member of the Medical Society of New Jersey; formerly mayor of Elizabeth; for many years head of the board of police commissioners; at one time member of the board of health; aged 85; died, May 15.

Lewis Morgan Powell, Topeka, Kan.; University of Pennsylvania School of Medicine, Philadelphia, 1891; member of the Kansas Medical Society; formerly professor of obstetrics at the Kansas Medical College, Medical Department of Washburn College, Topeka; aged 75; died, April 28, in Eustis, Fla.

Solomon Metz Miller, Norristown, Pa.; Jefferson Medical College of Philadelphia, 1902; member of the Medical Society of the State of Pennsylvania and the American Psychiatric Association; superintendent of the Norristown State Hospital; aged 68; died, May 24, of coronary thrombosis.

Charles Lee Quaintance ● Queens Village, N. Y.; University of Virginia Department of Medicine, Charlottesville, 1921; on the staff of the Jamaica (N. Y.) Hospital; aged 39; died, April 10, in the New York Post Graduate Hospital, of pneumonia, following an operation for appendicitis.

Abner Post ● Cambridge, Mass.; Harvard University Medical School, Boston, 1870; professor of syphilology emeritus at his alma mater and the graduate school; for many years on the staffs of the Boston City and Children's hospitals and the Boston Dispensary; aged 89; died, April 20.

Edward Hyatt Hutton ● Corning, N. Y.; Columbia University College of Physicians and Surgeons, New York, 1900; fellow of the American College of Surgeons; served during the World War; attending surgeon to the Corning Hospital; aged 61; died, May 7, of influenza.

John C. Doolittle ● Lancaster, Wis.; Wisconsin College of Physicians and Surgeons, Milwaukee, 1907; past president of the Grant County Medical Society; member of the school board; medical director and owner of a hospital bearing his name; aged 50; died, May 20.

Gilmer H. Moore ● Opelika, Ala.; Maryland Medical College, Baltimore, 1904; past president and secretary of the Lee County Medical Society; served during the World War; on the staff of the East Alabama Hospital; aged 54; died, April 13, of peptic ulcer.

Oleander Howton, Luxora, Ark.; Hospital College of Medicine, Louisville, Ky., 1903; member of the Arkansas Medical Society; served during the World War; aged 56; died, May 7, in the Methodist Hospital, Memphis, Tenn., of pneumonia.

E. S. H. McCauley ● Beaver, Pa.; Cleveland Medical College, 1897; past president of the Beaver County Medical Society; on the staff of the Beaver Valley General Hospital, New Brighton; aged 61; died, April 30, of pulmonary embolism.

Richard Russell, Arvada, Colo.; Gross Medical College, Denver, 1900; county health officer; formerly mayor of Arvada; for many years president of the board of education; aged 69; died, April 12, in St. Luke's Hospital, Denver, of pneumonia.

Eli Crawford Boyette, Charlotte, N. C.; Baltimore Medical College, 1893; veteran of the Spanish-American War; aged 66; died, May 13, in the Veterans' Administration Facility, Oteen, of chronic pulmonary tuberculosis.

Alice Gertrude Symonds Churchill, Darling Lake, N. S., Canada; Tufts College Medical School, Boston, 1899; formerly on the staff of the Hale Hospital, Haverhill, Mass.; aged 73; died, May 14, in a hospital at Yarmouth.

William Albert Kirksey, Hope Mills, N. C.; Washington University School of Medicine, St. Louis, 1921; member of the Medical Society of the State of North Carolina; aged 44; died suddenly, May 1, of heart disease.

Edward Roswell Newton ● Boston; Harvard University Medical School, Boston, 1898; member of the New England Otological and Laryngological Society; served during the World War; aged 59; died, May 18.

William Johnson, London, Ky.; Tennessee Medical College, Knoxville, 1896; member of the Kentucky State Medical Association; member of the county board of education; aged 65; died, April 23, of heart disease.

Emil Ernst Hartman ● Anthony, Kan.; Washington University School of Medicine, St. Louis, 1925; formerly secretary of the Harper County Medical Society; aged 35; died, April 21, of heart disease and influenza.

William Ambrose Cahill ● Huntington Park, Calif.; Dartmouth Medical School, Hanover, N. H., 1894; member of the Medical Society of the State of New York; aged 73; died, May 28, of arteriosclerosis.

Prince Albert Melick ● Williams, Ariz.; Beaumont Hospital Medical College, St. Louis, 1892; physician and owner of the Williams Hospital; aged 64; died, April 16, in the Santa Fe Hospital, Los Angeles.

Richard C. Burton, Savanna, Ill.; Bennett College of Eclectic Medicine and Surgery, Chicago, 1878; for many years health officer; aged 84; died, May 4, of abdominal carcinoma and arteriosclerosis.

Hubert Rogers Kannenberg, Dallas, Texas; Baylor University College of Medicine, Dallas, 1930; member of the State Medical Association of Texas; aged *29*; died suddenly, May 7, of angina pectoris.

Charles Sumner Webber ● Weymouth, Mass.; Boston University School of Medicine, 1926; instructor in clinical pediatrics at his alma mater; aged 36; died suddenly, May 16, of heart disease.

Charles Clyde Tellesen ● Wynot, Neb.; Rush Medical College, Chicago, 1909; veteran of the Spanish-American War; aged 58; was killed, May 5, of injuries received in an automobile accident.

Howard Fitzgerald Clark, Syracuse, N. Y.; Syracuse University College of Medicine, 1899; member of the Medical Society of the State of New York; aged 59; died, May 4, of heart disease.

George Lee Eaton ● San Francisco; Vanderbilt University School of Medicine, Nashville, Tenn., 1894; member of the American Urological Association; aged 61; died, April 25, of heart disease.

Hanson Slaven Ogilvie, Asheville, N. C.; Medical College of Virginia, Richmond, 1909; member of the Medical Society of the State of North Carolina; aged 50; was found dead, March 22.

William McK. Housman, Sioux Falls, S. D.; Cincinnati College of Medicine and Surgery, 1877; member of the South Dakota State Medical Association; aged 80; died, May 17, of angina pectoris.

George Hill Christy ● Vernal, Utah; Denver College of Medicine, 1900; past president and secretary of the Uinta County Medical Society; aged 57; died, May 16, of coronary thrombosis.

Dudley Henry Morris, University, Va.; Columbia University College of Physicians and Surgeons, New York, 1909; aged 49; died, March *29*, in a local hospital, of bronchopneumonia.

Elmer Le Roy Biggs ● Los Angeles; Dunham Medical College, Chicago, 1901; aged 59; died, May 6, in the Good Samaritan Hospital, of bronchopneumonia and cirrhosis of the liver.

Curtis B. Pendleton, Markleville, Ind.; Physio-Medical College of Indiana, Indianapolis, 1892; aged 80; died, April 17, of purpura hemorrhagica and acute dilatation of the heart.

Elisha William Lister, Elizabeth City, N. C.; Medical College of Virginia, Richmond, 1896; member of the Medical Society of the State of North Carolina; aged 62; died, May 1.

Harold York Masefield, Columbus, Ohio; Ohio Medical University, Columbus, 1900; member of the Ohio State Medical Association; aged 54; died, May 3, of chronic myocarditis.

Granville A. Richart, Blackburn, Mo.; University of Louisville (Ky.) School of Medicine, 1886; member of the Missouri State Medical Association; aged 73; died, May 5.

Henry William Albers, Terrace Park, Ohio; Cincinnati College of Medicine and Surgery, 1882; formerly member of the board of education of Cincinnati; aged 76; died, May 6.

Julia Ross Low, Detroit; Chicago Homeopathic Medical College, 1880; Harvey Medical College, Chicago, 1895; aged 78; died, May 24, of arteriosclerosis and chronic myocarditis.

La Fayette Seal, New Tazewell, Tenn.; University of Tennessee Medical Department, Nashville, 1891; aged 70; died suddenly, May 11, of heart disease, in a theater at Knoxville.

Theodore F. Johnson, National City, Calif.; Chicago Medical College, 1877; formerly county coroner; for many years school trustee; aged 82; died, May 2, of heart disease.

Arnold Paige ● Erie, Pa.; University of Buffalo School of Medicine, 1927; aged *32*; died, March 8, at the Jefferson Hospital, Philadelphia, of adenocarcinoma of the stomach.

Michael Horatius Couture, Lynn, Mass.; School of Medicine and Surgery of Montreal, Que., Canada, 1893; aged *69*; died, May 16, of cerebral hemorrhage and arteriosclerosis.

Charles E. Menard, Paxico, Kan.; Kansas Medical College, Medical Department of Washburn College, Topeka, 1898; aged 65; died, May 1, of chronic valvular heart disease.

Harry Izner, Chicago; Chicago College of Medicine and Surgery, 1912; member of the Illinois State Medical Society; aged 48; died, May *24*, of carcinoma of the esophagus.

William Littlefield Ripley, Boston; Tufts College Medical School, Boston, 1903; member of the Massachusetts Medical Society; aged *62*; died, May 1, of heart disease.

Francis Jewell Crane, Tonopah, Nev.; Chicago Medical College, 1879; member of the Nevada State Medical Association; aged 79; died, May 4, in a local hospital.

Ralph Whitney Reynolds, Pasadena, Calif.; Cleveland Homeopathic Medical College, 1902; member of the California Medical Association; aged *64*; died, April 19.

James Caldwell Price, Toledo, Ohio; Cleveland Homeopathic Medical College, 1903; aged *64*; died, April *22*, in the East Side Hospital, of cerebral hemorrhage.

Charles William Espy, Chicago; Rush Medical College, Chicago, 1892; member of the Illinois State Medical Society; aged 70; died, May *22*, of lobar pneumonia.

Charles Henry Hall, Monroe, N. Y.; College of Physicians and Surgeons, Baltimore, 1891; aged *72*; died, April 19, of chronic myocarditis and arteriosclerosis.

Clarence Howard Waite, Pittsfield, Mass.; Bellevue Hospital Medical College, New York, 1885; also a druggist; aged 75; died, April *20*, of chronic myocarditis.

George Alvin Cassidy, Fremont, Neb.; McGill University Faculty of Medicine, Montreal, Que., Canada, 1885; aged *76*; died, May 18, of coronary thrombosis.

William David O'Byrne ● Chicago; Rush Medical College, Chicago, 1899; veteran of the Spanish-American War; aged *72*; died, May 25, of pneumonia.

Conway Bates, Ironton, Mo.; St. Louis Medical College, 1883; member of the Missouri State Medical Association; aged *77*; died, May *2*, of pneumonia.

Henry Mercer Richards, Lakeland, Fla.; Atlanta (Ga.) School of Medicine, 1909; member of the Florida Medical Association; aged 54; died, April 6.

Anna J. Fronk-Srom, Chicago; College of Medicine and Surgery, Chicago, 1903; aged 73; died, May 11, of pneumonia, diabetes mellitus and hypertension.

William Addison Smith, Ithaca, N. Y.; Long Island College Hospital, Brooklyn, 1889; health officer of Newfield; aged *67*; died, March 31, of carcinoma.

Homer John Hall, Franklin, Ind.; University of Louisville (Ky.) School of Medicine, 1877; aged 82; died, April *29*, of acute nephritis and influenza.

William R. Terry, Shellman, Ga.; Atlanta Medical College, 1890; member of the Medical Association of Georgia; aged 71; died, February 14.

William Prentice Knox ● Alcoa, Tenn.; Vanderbilt University School of Medicine, Nashville, 1931; aged *29*; died, May 6, of acute uremia.

Anthony Domenick Tarditi, New York; Columbia University College of Physicians and Surgeons, New York, 1903; aged 54; died, April 5.

Wilmot Charles Willits ● Kansas City, Mo.; University Medical College of Kansas City, 1901; aged 68; died, May 1, of coronary occlusion.

Artemas Brown, Berwyn, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1887; aged *74*; died, April *28*, of chronic myocarditis.

Anna Albers, Chicago; Illinois Medical College, Chicago, 1908; aged 70; died, May *29*, of septicemia, otitis media and diabetes mellitus.

Arthur C. Hutchins, Des Moines, Iowa; Drake University Medical Department, Des Moines, 1905; aged 70; died, April *24*, in Van Meter.

William Howard Ensworth ● Boston; Harvard University Medical School, Boston, 1888; aged 68; died, May 3, of pulmonary embolus.

Percy Vernon Ellis, Ghent, Ky.; University of Louisville School of Medicine, 1886; aged *69*; died, May 1, of cerebral hemorrhage.

Ada Carr, Paterson, N. J.; New York Medical College and Hospital for Women, 1882; aged 81; died, May 17, of bronchopneumonia.

Francis M. Gage ● Shelton, Wash.; Atlanta (Ga.) Medical College, 1895; aged *60*; died, April *29*, of carcinoma of the prostate.

Willis H. Davis, Peoria, Ill.; College of Physicians and Surgeons, Keokuk, Iowa, 1879; aged 81; died, May 9, of heart disease.

John Willis Baldwin, Arthur, Tenn. (licensed in Tennessee in 1889; aged *77*; died, May 10, of disease of the prostate gland.

Gioacchino Stabili, Morrisville, Pa. (licensed in Pennsylvania in 1911); aged 71; died, February 7, of arteriosclerosis.

Will W. Tyson, Perry, Fla.; Atlanta Medical College, 1889; aged 68; died, April 1, of pneumonia.

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS and queries on postal cards will not be noticed. Every letter must contain the writer's name and address, but these will be omitted, on request.

RAGWEED SEASON IN THE WEST

To the Editor:—I am seeking information and wonder if you could help me. I have a patient who suffers from ragweed hay fever. The season begins here about August 15. She is planning a trip to California, starting the first of June. She has not been immunized. Is there a ragweed season starting earlier in the West? What difficulties would she be likely to encounter in this regard?

ALBERT B. HODGMAN, M.D., Kalamazoo, Mich.

ANSWER.—The North Pacific Coast (Portland and Seattle) is entirely free from ragweed pollen at all seasons. Western ragweed and certain species of false ragweed begin to pollinate in the Southwest as early as May 15, but in most places in the West not before July 1 or later. Exposure to ragweed pollen is therefore possible in the West and Southwest many weeks before the usual ragweed season in Michigan, but the probability of exposure for one engaged in ordinary pursuits is slight. Present records indicate that the total amount of ragweed pollen encountered in central and southern California and Arizona during the whole summer and fall is much less than that encountered on an average day during the ragweed season in Michigan. On May 15 the average ragweed pollen content of the air in southern Michigan is at least 15 granules per cubic yard of air. If a concentration as high as this has ever been found in California, it has not been reported. The statistics for 1933 in the accompanying table may be useful in deciding the patient's itinerary.

Ragweed Season, 1933

	Date of Onset of Ragweed Season	Maximum Ragweed Concentration, Pollen per Cubic Yard of Air	Date of Maximum Concentration	Total Seasonal Fall of Ragweed Pollen on Area of 1.8 Sq.Cm.
Detroit	Aug. 12	1,232	Sept. 6	8,011
Chicago	Aug. 12	870	Sept. 1	7,249
Denver	Aug. 10	363	Aug. 26	3,804
Salt Lake City	Aug. 15	31	Sept. 5	282
Boise, Idaho	Aug. 15	36	Sept. 29	209
Spokane, Wash.	.....	2	Aug. 18	8
Seattle (1929)	.....	0	.....	0
Portland, Ore.	.....	0	.....	0
Reno, Nev.	.....	4	Sept. 5	12
Sacramento, Calif.	.....	7	Sept. 17	34
Los Angeles	.....	14	Sept. 8	144
Phoenix, Ariz.	May 15	12	Oct. 21	145
Roswell, N. M.	Aug. 15	44	Sept. 25	350

TRAUMA AND ALLERGY

To the Editor:—A man, aged 45, was struck on the head with a blackjack in a holdup, May 30, 1933, sustaining a concussion of the brain. Headaches lasted for about two months and then abated. August 25, he developed typical but severe symptoms of hay-fever for the first time in his life. Skin testing revealed that he was sensitive to ragweed. The symptoms of vasomotor rhinitis continued with their initial severity into the fall and winter, and further skin testing then showed that he was sensitive to feathers and dust. The amount of relief obtained so far from injections of ragweed, feathers and dust has been unsatisfactory, as he still suffers from constant nasal congestion. Any suggestions you can offer as to further treatment will be appreciated. Is there anything in the literature indicating that trauma of the type described can bring out a latent allergic state? I have not been able to find this out in my own reading. Please omit name.

M.D., New York.

ANSWER.—A search of the literature reveals no instance wherein trauma can be blamed for the onset of allergic symptoms; e. g., hay fever or asthma. An excessive exposure to pollen, as in going to camp during a pollinating season, can and often does exceed the threshold of the potential allergic with resultant symptoms. But trauma is not a cause except that it might act by lowering the general resistance.

Complete skin tests, if not already done, should be carried out for pollens, epidermals, foods and miscellaneous substances; e. g., cottonseed and orris root. Desensitization should be attempted by injecting against ragweeds and house dust; feathers should be eliminated and the premises kept as free from dust as possible.

The constant nasal discharge calls for a thorough nose and sinus examination, perhaps with x-rays. The nasal discharge should be examined for eosinophilia by fixing on a slide and staining with Wright or other similar stain. Allergy would be definitely indicated if the proportion of eosinophils exceeded 10 per cent; such smears frequently show over 50 per cent.

Finally, if specific treatment by ragweed and dust extracts is unsuccessful nonspecific measures should be tried, in succession, if necessary. Among such methods may be mentioned the use of vaccine, stock or autogenous; ultraviolet radiation; x-rays; injections of foreign protein, e. g., sterile milk; also autohemotherapy.

VACCINATION AGAINST CANINE RABIES

To the Editor:—In Queries and Minor Notes (THE JOURNAL, April 7, p. 1180) you state that there are no available data as to the efficacy of the prophylactic vaccination of dogs against rabies under field conditions. This is a very vital matter, as such vaccination has been required by the state of Washington since 1932 in certain counties where rabies in dogs has been endemic. Two dogs in Seattle have become rabid within a year after a single required vaccination (from 3 to 10 cc. of phenol-treated virus), the last case having occurred five months after vaccination. The immunity afforded by this single vaccination is supposedly one year, as you note. Since from fourteen to twenty-eight injections of rabies vaccine are required to produce immunity against rabies in man, and this protection lasts only a year, the single injection used for canine immunity would seem a priori to be absurd. Even if the protection afforded by a single injection of vaccine against rabies in the dog were efficient, this method in practice would be most unsatisfactory. It is impossible to get dog owners to vaccinate more than a fraction of their animals. The careless and irresponsible, ignorant owners of dogs are the very ones who neglect vaccination, and when the period of supposed immunity has elapsed few owners have their dogs revaccinated. It is also often uncertain whether dogs have been vaccinated or not, as the animals often lose their tags. Cases of rabies in dogs have continued here abouts during the period of vaccination. Some 132 cases of ascertained rabies in dogs have occurred in Seattle and vicinity since 1932, and about 5,000 dogs have been vaccinated in the same area during this period. Recently the health authorities have gone back to the old method, requiring dogs to be muzzled or leashed, and ordering dogs not so cared for to be picked up by the police. You would indeed render a valuable service if you could supply some experimental evidence concerning the single prophylactic vaccination of dogs against rabies. If there is no such evidence available, as you say, this method appears to be a very dangerous and unscientific mode of protection for dogs or man against this invariably fatal and horrible disease to be officially adopted by government authority. Would you kindly express your opinion freely on this important matter.

KENELM WINSLOW, M.D., Seattle.

ANSWER.—From the statements in this communication there does not seem to be any question about the inadequacy of the preventive measures against canine rabies as practiced in the state of Washington at present. The experimental work on vaccines against canine rabies is reported by Schoening, H. W.: Experimental Studies with Killed Rabies Vaccines, *J. Am. Vet. A.* **76**:25 (Jan.) 1930; Prophylactic Vaccination of Dogs Against Rabies, *ibid.* **78**:703 (May) 1931. These articles contain the reports on work carried out in the Pathological Division, Bureau of Animal Industry, U. S. Department of Agriculture. As vaccination against rabies still is in the experimental stage, there must be no relaxation but rather increasingly effective enforcement of the essential, standard control methods of licensing, quarantining, and the impounding and destruction of stray dogs. The experience in England and the Scandinavian countries shows that canine rabies can be controlled and eradicated by such methods.

TREATMENT OF SNAKE BITE

To the Editor:—Would you kindly inform me if the following procedure is still advocated in a case of snake bite (quotation from handbook for boys, Boy Scouts of America): "Quickly make the wounds bleed, lay open each fang hole with an x-shaped cut made by a sharp knife." Please omit name and address.

M.D., Iowa.

ANSWER.—The first thing to do is to apply a tourniquet above the snake bite if it is on the extremity so that this is possible.

The wound should be cut open at once with a crucial incision; some of the tissue may even be cut out if done by a physician, and suction applied.

The tourniquet should be loosened for a few seconds every five minutes so as not to interfere too much with the circulation, and this also permits the venom to pass slowly into the system. This procedure should be kept up for an hour or more.

Alcohol is injurious after snake bites.

The venom has little effect when swallowed.

The injection of a solution of chlorinated soda into and around the site of the bite will diminish the toxicity of the venom. Also the injection of the salts of gold, mercury and zinc around the wound have given better results than permanganate or other oxidizing agents. They must be injected

before a lethal dose has entered the system, but if given in too large doses they may do harm by increasing tissue necrosis.

A polyvalent serum against the rattlesnake, copperhead and water moccasin has been accepted by the Council on Pharmacy and Chemistry. It should be injected at once or within twelve to twenty-four hours if possible. Part of the serum should be injected around the bite and the remainder higher up under the skin and in the muscle. If the patient is not better within four hours, the injection should be repeated.

Ammonia water given subcutaneously is of value in doses of from 1.25 to 2 cc. to control shock, but other stimulants also may be given.

DECAY OF TEETH AND CALCIUM METABOLISM

To the Editor:—A girl, aged 15 years, apparently has been on a perfectly well balanced diet all her life, and the blood calcium at this time is 11.1. In the last six months several of her teeth have become decayed, and the enamel on her teeth is thinning out and losing its luster. Her dentist thought that she probably had some calcium deficiency, but her diet is adequate, and a check-up on the blood calcium proves that it is within normal limits. This is the second patient that I have had in this territory in the last two or three years with this complaint, and I am wondering whether you can give me any light on the question.

E. M. KERSTEN, M.D., Fort Dodge, Iowa.

ANSWER.—The age of the patient is that of one of the periods of greatest susceptibility to dental decay coincidental with rapid growth and general readjustment of metabolism. A blood calcium of 11.1 mg. per hundred cubic centimeters of blood plasma is within the normal range, though toward the high side. This may be deceiving, as it is no assurance of a positive calcium balance, since the level of the blood calcium is presumably controlled by the parathyroid secretion and this favorable blood picture may be preserved by an active parathyroid depletion of the calcium reserves in the bones rather than by ingestion from the gastro-intestinal tract. The high calcium level of the blood is rather suggestive under these circumstances of just such a condition. It is possible even with a "perfectly well balanced diet" that mineral metabolism is faulty and that absorption of calcium from the food is not proceeding rapidly enough to balance the demand for calcium for growth and that lost through elimination. In spite of many assurances to the contrary it is debatable as to just how much this and similar cases may be benefited immediately by treatment, since the etiology of dental caries is not wholly clear. Because of great susceptibility to decay, extraordinary precautions should be taken; frequent visits to the dentist and prompt filling of each cavity in such a way as to inhibit local recurrence, vigorous use of the mouth in chewing, careful attention to brushing the teeth each time after eating, and a diet well fortified with minerals and vitamins are recommended. Carbohydrates should be reduced to a level barely sufficient for energy requirements.

NONSURGICAL TREATMENT OF SENILE HYPERTROPHY OF PROSTATE

To the Editor:—Is there any nonsurgical treatment that would be of benefit in cases of senile hypertrophy of the prostate or of its prominent symptom of increased frequency of urination and especially nocturia? In other words, is there anything that might be of benefit in some cases of hypertrophied prostate in the use of drugs, heat or cold, diathermy, massage, ultraviolet or electricity? Please omit name.

M.D., Virginia.

ANSWER.—The use of heat, drugs and massage has a definite place in the treatment of senile hypertrophy of the prostate. These forms of treatment are only palliative. They are never curative. Many times they relieve frequency of urination, burning and pain.

The massage treatments should be carried out about once or twice a week, depending on the amount of pus present in the strippings and also on the amount of relief the patient obtains from the massage. The massage should be done carefully and gently, the production of pain being avoided, with avoidance also of blood at the external urethral orifice after massage.

Heat may be used through one of the various instruments designed for that purpose, either through a prostatic tube or by means of an electrical prostatic heater. Patients are generally more comfortable and obtain more relief from heat than they do from applications of cold. Diathermy has not proved very satisfactory.

Many patients obtain relief from this program. On the other hand, the patient with senile hypertrophy of the prostate who has symptoms is headed for surgical relief and this may be obtained in a relatively simple way by means of a transurethral electrical resection. This new method carries with it an exceedingly low mortality rate and the period of hospitalization is short, varying from five to eight days.

One might be justified in advising the patient to use heat and massage for a period of three months, or perhaps six months, and if the desired relief is not obtained he should have a transurethral electrical resection of the prostate.

DIAGNOSIS OF SYPHILIS AND SYPHILOPHOBIA

To the Editor:—A dentist gives a history of an innocent infection of his finger with a two plus Wassermann reaction, about eighteen years ago. He received four or five injections or arsphenamine (or neoarsphenamine) and four or five gluteal injections of corrosive mercuric chloride. He also took some mixed treatment orally for a while. Blood Wassermann tests made annually since that time have remained negative. He lives in fear of tertiaries developing, although so far he has apparently been in good health. He refuses a spinal test. Kindly let me know whether he can be considered cured, or what the chances are of his developing tertiary symptoms. He is about 43 years of age. Please omit name.

M.D., New York.

ANSWER.—The diagnosis in this case is open to criticism, for one two plus Wassermann reaction is an entirely inadequate basis for a diagnosis of syphilis. Even a strong positive result would require repetition, if the diagnosis had to rest on the Wassermann reaction. If repeated tests show weak or doubtful reactions, the case should have been observed for a time in expectation of further clinical evidence. At the present time, however, it would be a great injustice to the patient to admit any doubt of the diagnosis. He must be considered to have had syphilis and suspected of still having it. It is imperative that a thorough clinical examination of the central nervous system be made, with a careful study of the spinal fluid, to rule out the possibility of hidden infection. In spite of the repeatedly negative blood tests, a general physical examination, with particular attention to the possibility of syphilis, should also be made. If no evidence of syphilis is found, he may be considered cured.

This may not satisfy his fears, for a man of medical education who fears tertiary involvement and yet refuses a spinal fluid test cannot be considered normal mentally but must be classed as having syphilophobia. Mental treatment is needed. These cases are hard to handle. If nothing else succeeds, it may be permissible in some cases to give a mild course of iodides with mercury or bismuth preparations with the understanding that this treatment is given solely for its mental effect.

TREATMENT OF DEMENTIA PARALYTICA

To the Editor:—A man, aged 39, married but separated from his wife and in excellent physical condition, has had syphilis for at least ten years. Four years ago, mental symptoms appeared. Antisyphilitic treatment was begun in the summer of 1930. During this treatment the patient had to be institutionalized for his mental condition. At that time the blood Wassermann reaction was 4 plus and the spinal fluid showed marked traces of globulin, 12 cells, and a trace of dextrose. The Wassermann reaction with 0.2, 0.4, 0.6 and 0.8 cc. was negative. The colloidal gold test was 4444322000. The gum mastic test was positive. The Takata-Ara test was positive. Malaria was given and the patient had eight chills. He improved both mentally and physically during his stay at the institution. In November, 1930, a tryparsamide course was begun; in May, 1931, the blood Wassermann reaction was 3 plus with noncholesterolized antigen and 4 plus with cholesterolized antigen. The same month a second course of tryparsamide was begun. The patient improved both physically and mentally with each course. The blood Wassermann reaction in October, 1932, was 1 plus with noncholesterolized antigen and 3 plus with cholesterolized antigen. The past year no treatment was given. In January, 1934, a third course of tryparsamide was begun but was discontinued after 10 Gm. was given because ophthalmoscopy, which the patient allowed for the first time, revealed a pale left eyeground with a somewhat paler optic disk. The patient cannot discern the number of fingers held before his left eye. The sight in the right eye is still fairly good. I should like to know what, in your opinion, is the proper course of treatment to follow. His condition at present is very good physically. Mentally he has been improving steadily. A neurologic examination reveals that he has generalized paretic convulsions about once a month. The left arm and leg are very ataxic and somewhat weakened. The ataxia and the eyesight are said to be getting worse. In view of the fact that the ataxia seems to be greater now than before, is it possible that the completion of the third course of tryparsamide may cause a loss of vision in the right eye? The patient will not allow proper examination, so that the optic disk in the right side cannot be seen. The patient is still institutionalized and can be kept in bed as long as is necessary. What treatment do you advise? Kindly omit name.

M.D., New York.

ANSWER.—Obviously the outlook for the patient is not good, as he has had considerable treatment without complete recovery. One would suppose that the probabilities are that he has reached the maximum of improvement possible. At any rate, one is certainly not able to use any of the arsenicals with any degree of safety. Possibly some further indication as to the outcome could be obtained from examination of the cerebrospinal fluid at the present time. Should this be negative, one

would have good evidence to assume that treatment could accomplish but little. If, on the other hand, it should be strongly positive, one would feel that fever therapy was the only available therapy that could be given, either in the form of another course of malaria or by diathermy.

URTICARIA HIEMALIS

To the Editor:—About two months ago, while riding on a railroad velocipede in the open, I noticed a rather marked symmetrical swelling of all the fingers. This subsided after three or four hours in a warm room. The swelling appeared like the wheals in urticaria, being red at first and then blanching. There is some burning and itching of the parts exposed to the cold wind. When I take a piece of ice in my hand, an urticarial-like lesion appears promptly. Now the swelling appears in the ears, the face or any part that is exposed. At present there is slight tingling in the fingers. My general health is excellent and no other symptoms are noted. Exposure to cold has been less this winter than ever before. By wearing warm gloves and rubbing my hands often, I can prevent the condition in my hands. I am guessing that this is a case of "cold allergy." Will permanent enlargement of the parts be likely if the lesions are caused to appear two or three times each day? Is there any cause for cold allergy besides exposure to cold? What is the treatment, if any, other than change to a warm climate? Since my work I travel on an open railroad velocipede each day, and prevention of exposure of some parts to cold wind is almost impossible. Would a focus of infection in the appendix or prostate be likely to influence the condition?

WILLIAM S. HARGAN, M.D., Worley, Ky.

ANSWER.—The case here described is a typical case of contact allergy caused by cold, described by Duke as urticaria hiemalis (Urticaria Caused Specifically by the Action of Physical Agents, THE JOURNAL, July 5, 1924, p. 3).

Repeated reaction in the hands and face, caused by exposure to cold, will cause in the course of time organic changes in the skin. Exposure of a large part of the body to low temperatures, especially between 5 and 15 C., can cause a dangerous or even fatal reaction. Such a reaction could be encountered on a motorcycle trip when the outside air is at the temperatures mentioned or by swimming in cold water. The dangers to cold-sensitive individuals caused by swimming has been described in an editorial (Cold Allergy and Drowning, THE JOURNAL, Nov. 18, 1933, p. 1644). Shock symptoms such as these can be relieved with epinephrine. Local symptoms can be prevented by rubbing the hands briskly together, as mentioned. This serves to dilate the skin vessels and prevents abnormal cooling of the surface tissues. A slower reaction of this sort can cause what is known as chilblains. A certain degree of tolerance can be obtained for cases of this sort by ice rubs given by a person who understands this work.

Removal to a warmer climate and a change in occupation may be helpful.

ASTRINGENT SENSATION IN MOUTH

To the Editor:—A woman, aged 62, unmarried, of keen intellect and a high degree of culture (university professor), was exceedingly well and vigorous until sixteen years ago, when she undoubtedly contracted amebiasis while on a visit to Mexico. Since that time she has had vigorous and prolonged treatment and is free from that infestation, as I am convinced by microscopic, sigmoidoscopic and therapeutic tests, although there has persisted an intermittent "looseness of the bowels." The patient complains bitterly of an astringent sensation of the mouth, which has been very persistent since February of last year. She describes this "as if she had eaten persimmons." It sometimes sets in suddenly after eating and in a very aggravated way. There is no apparent relation to foodstuffs, except that she "cannot tolerate milk." There is a noticeable accumulation of tartar, and the teeth require frequent cleaning. Correction of dental defects has had no effect in relief. Sometimes there is a noticeable dryness of the mouth. During this period of eleven months there has been a noticeably increased nervous exhaustion, loss of appetite and loss of weight (15 pounds, or 7 Kg.). Stimulation with insulin, ultraviolet radiation, halibut liver oil and thyroid extract by turn have been of no avail. It is to be remarked that thyroid extract in a dosage varying from ½ to 1 grain (0.03 to 0.065 Gm.) daily over a prolonged period has not increased the pulse rate of approximately 64. A stasis in the ileum, twice demonstrated by roentgen examination, could possibly be attributed to adhesions following appendectomy several years ago, but there is no pain or tenderness. I am particularly concerned about the explanation of this very troublesome sensation of the mouth and inquiry is directed to that.

CARY A. POINDEXTER, M.D., Crystal City, Texas.

ANSWER.—The clinical picture presented in this case suggests several possibilities in diagnosis and the further suggestion that treatment should be the usual treatment for the diagnosis finally arrived at. Except indirectly, the former amebic infection would have no relation to the present condition. The residual damage from the amebic infection in the large intestine might be a factor as noted below. There must be considered (1) the possibility of food allergy, which should be worked out by the use of elimination diets; (2) the possibility of xerostomia in a modified form; (3) the possibility of the entire condition being due or partly due to a pure neurosis, and (4) a condition occasionally seen clinically in which there is a more or less indefinite relation to disturbances of physiologic function in the large intestine. Attention to avoidance of any type of irritation of the large intestine, possibly with the attempt to change the bacterial flora, often gives improvement. This suggestion deserves especial attention in this case because of the ileac stasis and probable adhesions.

SYPHILIS

To the Editor:—A man, aged 26, with a chancre (positive dark field) and four plus Wassermann reaction was given twelve injections of neoarsphenamine. He weighs 150 pounds (68 Kg.) and his physical examination other than the chancre and inguinal adenopathy, is negative. He was given 0.3 Gm. of neoarsphenamine, two days later 0.45 Gm., two days later 0.6 Gm., and then 0.6 Gm. every seven days until a total of twelve injections had been given. The chancre started to heal at once and was completely healed after the fourth injection. Following the last injection he developed itching of the feet, but no rash, and a sense of heaviness in his legs, especially after moderate exercise. The Wassermann reaction was still four plus. He was immediately started on mercury rubs six times a week. To date he has had eighteen rubs. The itching has somewhat diminished but the sense of weakness of the legs persists. Is this due to the injection or treatment? Careful examinations of the urine show no signs of kidney irritation. It is my plan to give between forty and sixty rubs and then return to neoarsphenamine or bismuth arsphenamine sulphonate. Is this treatment to date in accord with the latest conception of therapy? Is there any way of speeding up the treatment? The patient read somewhere that the use of mercury increases the incidence of tabes dorsalis and is reluctant to take mercury on this account. Is there any foundation to this belief? If so, what would you suggest I use in place of mercury? Please omit name.

M.D., New York.

ANSWER.—Itching of the feet is one of the danger signals occurring in the course of arsphenamine treatment and may be the forerunner of an impending arsphenamine dermatitis. A sense of heaviness or weakness in the legs may indicate nothing more than a mild degree of intolerance to arsphenamine. On the other hand, it may be an early symptom of an arsenical neuritis. If associated with a high cell count and a positive Wassermann reaction in the spinal fluid it might be interpreted as evidence of an early syphilitic cerebrospinal involvement or a neurorecurrence. The treatment of early syphilis with a combined therapy consisting of alternating courses of one of the arsphenamines with a heavy metal is in accord with the latest conception of therapy. Many syphilologists prefer bismuth to mercury, and a course of eight or ten intramuscular injections of bismuth salicylate once weekly is frequently given. However there are many clinicians who still use mercurial inunctions. There is no way of speeding up the treatment unless one wishes to use the method advocated by Schamberg of giving neoarsphenamines intravenously in doses up to 0.3 or 0.45 Gm. and a bismuth compound in doses of 0.2 Gm. intramuscularly on the same day. There is no foundation for the belief that mercury increases the incidence of tabes dorsalis. From three to five in every hundred syphilitic patients get the disease. Tabes may have been more frequent before the arsphenamine era when mercury and the iodides were used exclusively in the treatment of syphilis. Comparative statistics are difficult to obtain.

INDUSTRIAL HAZARD OF SPOT WELDING

To the Editor:—I have under my care a man, aged 23, who presents all the signs and symptoms of chronic arsenic (arsine gas) poisoning—pallor, nausea and vomiting, headaches and anemia—and gives a history of working at spot welding until he became too ill to work. The urine is heavily loaded with albumin. White blood cells number 10,000; red blood cells, 2,500,000. Examination of the urine is negative for tubercle bacilli. The blood Wassermann reaction is negative. He also has a systolic murmur. The blood pressure is 160 systolic, 100 diastolic. Treatment has consisted of heavy doses of nephritin tablets and the intravenous use of sodium thiosulphate (10 cc.) weekly, of which he has had three. About twice a week he develops headaches that are so severe that he requires hypodermic medication. None of the other sedatives that I have tried seem to help. I have alternated pantopon, morphine and codeine (in heavy doses) but would like to find something else to use or do to relieve them if possible. He has nausea and vomiting spells with the headaches. Is there any other management necessary or that you could suggest (other than diet) to aid him? Please omit name.

M.D., Ohio.

ANSWER.—Spot welding with electrical apparatus is an unlikely source of arsenic poisoning unless there are special qualities about the metals employed or unless the welding is done with acetylene torch methods rather than electric currents. Acetylene gas occasionally contains arsenic as an impurity that originated in the materials from which the acetylene was produced. It would seem to be necessary that real exposure to arsenic at work or other places be established before a diag-

nosis of arsenic poisoning can be made. It is suggested that the hair obtained from a hair cutting of the head be analyzed for its content of arsenic. Something may be gained by an analysis of the urine for its quantity of arsenic content. Both the hair and the urine may normally contain arsenic, for which reason significance is to be attached only to amounts above the normal limits. Although the manifestations listed in the query are compatible with the diagnosis of arsenic poisoning, it appears that certain other striking features should be present, such as inflammation of the upper respiratory tract, difficulty in breathing, neuritis, skin disorders and paresthesia. Instead of specifying precise medicaments, emphasis in this reply is placed on a more thorough quest as to arsenic exposure and for other etiologic factors that possibly may be the cause of the condition.

USE OF MORPHINE AND ATROPINE

To the Editor:—May I ask the physiologic basis for the use of morphine and atropine in combined dosage? Apart from their being physiologic antidotes, is there any reason why atropine should be combined with morphine when one is seeking the effects of morphine in pneumonia or other acute phenomena? Where can I find authoritative opinion or work bearing on the combined use of these two drugs? Certain textbooks in pharmacology, such as Cushny, state that morphine is a respiratory depressant. Does he refer to therapeutic doses? Is this depressant effect a contraindication to its therapeutic use in pneumonia and is it modified by the combined use with atropine? Authorities seem to differ regarding the therapeutic use of morphine in lobar pneumonia. Thannhauser of Germany, for example, states that morphine should be used only with venesection in pulmonary edema—in small doses—and holds that otherwise it is contraindicated. I have used morphine when indicated in pneumonia for many years with very satisfactory results. I can find little or no comment advising its use in textbooks or the literature and want to know what the best informed clinical opinion is in its bearing on this subject. In the consolidation of pneumonia, during the heptatized stage, when resolution and absorption are to be desired, to what extent is the use of atropine indicated or contraindicated? Kindly omit name.

M.D., New York.

ANSWER.—Morphine depresses respiratory functions, especially the cough reflex, in all doses. Doses as low as 2 mg. of morphine sulphate have a quieting effect, and 6 mg. has a decided effect. This is explained by a direct effect on the respiratory center.

Small doses of morphine salts that quiet respiration would not be contraindicated in pneumonia and might be of benefit, especially if there is an embarrassing cough, which always adds a great strain on the heart. If given mainly for the cough, codeine may be preferable, since its main effect is to lessen coughing, usually without the constipation, itching or drowsiness that occur with the use of morphine.

When to use morphine or its derivatives in pneumonia is a debatable question. One finds that equally eminent physicians have different opinions. The following statement by Cohen and Githens (Pharmacotherapeutics, New York, D. Appleton & Co., 1928, p. 1693) is as conservative and as authoritative as the conditions permit: "At one time morphine was held to have a restraining or even 'jugulating' effect in lobar pneumonia if injected at, or shortly after, the time of chill; and many physicians still employ it, from time to time, during the course of the malady, to assuage pain, check cough or induce sleep. The better plan, however, is to avoid its routine use at any stage in the evolution of the pneumonias. If the sedative influence of opium should seem imperative to afford needed rest in an individual instance, codeine by mouth, in a sufficient dose, is commonly to be preferred and injection of morphine to be restricted to cases in which nought else will avail." Bastedo (Materia Medica and Therapeutics, 1932, p. 442) says that morphine in pneumonia has frequently precipitated edema of the lungs.

Since morphine is used not as a cure but to relieve pain and to give rest, there is no necessity for the use of atropine. Austrian (in Tice's Practice of Medicine, 1925) says that atropine is valuable in the treatment of pulmonary edema.

Many physicians of large experience give morphine as soon as the patient is restless, both to protect the heart and to improve respiration. The quieting effect rests the heart, and while respiration is slowed they believe that the slower, deeper respirations give better ventilation than the quicker and shallower ones. When restlessness, pain and cough endanger cardiac reserve, Austrian advises from one-fourth to one-half grain (0.016 to 0.032 Gm.) of ethylmorphine hydrochloride with each dose of digitalis, enough to keep the patient digitalized. In any case when simple sedative measures fail to give rest, opium and its derivatives, powder of ipecac and opium, from 0.3 to 0.65 Gm., or codeine, from 0.016 to 0.03 Gm., is of great value not only in relieving pain but in promoting relaxation and sleep (Austrian).

Morphine and atropine are synergistic in producing narcosis. The synergism is greater with scopolamine than with atropine. Scopolamine is closely related to atropine but is less exciting and has a greater tendency to produce drowsiness. The combination of scopolamine with morphine has had considerable vogue in the production of "twilight sleep." Some of the unpleasant effects of morphine are said to be minimized by atropine. The two are combined in the proportions of from 0.4 to 0.6 mg. of atropine sulphate with from 8 to 16 mg. of morphine sulphate. Each drug apparently exerts its own action, as given in any textbook of pharmacology.

To give atropine as an antidote for morphine, so far as man is concerned, would seem absurd. The experimental work on animals is contradictory, varying with the animal used and with the dose. Antidotal effects are obtained only with small doses, which need no antidote. The idea that morphine and atropine are antidotal in man probably arises from the contradictory animal experiments and from the custom of giving atropine with morphine preparatory to surgical anesthesia. It is given in such cases not as an antidote but to lessen mucous secretion during the anesthetic. At the same time, by paralyzing the vagus endings, the likelihood of arrest of the heart by reflex shock is decreased. Atropine is to some extent a respiratory stimulant but this is weak and would have little effect on the depression caused by morphine; in fact, it would add to the depression. Authoritative opinion on the effect of the two drugs on respiration is given by Cushny in Heffter's Handbuch der experimentellen Pathologie, 1924, page 605; and by Sollmann (Pharmacology, 1932, p. 382).

We know of no indication for the use of atropine in any stage of pneumonia. However, if conditions arise indicating its use, we know no reason why it should be withheld. It should be remembered, however, that it causes dryness of the mouth and throat, thirst, difficulty of swallowing, dryness of the skin, rapid heart, and often nausea, headache and giddiness, thus aggravating the discomfort already present. Since many physicians give digitalis in pneumonia, atropine, by paralyzing the vagus endings, would tend to antagonize the effect of the digitalis. The two should not be given jointly.

In cases in which renal or gallbladder colic develops, atropine would be a distinct addition to morphine therapy. In such cases it acts by paralyzing the parasympathetic nerve endings to smooth muscle, thus lessening the painful spasm.

CASTRATION, VASECTOMY AND PROSTATIC HYPERTROPHY

To the Editor:—I should like to have your opinion on the following points: An old method of treating prostatic hypertrophy was castration. Of course, this never met with the favor of the patient, although the results were often good. Now before prostatic work a vasectomy is done to forestall an epididymitis. How much does a simple vasectomy influence the prostatic condition? Should all the vessels, both arterial and venous, of the cord plexus be cut? Why would this not be equivalent to an orchidectomy? What effect would this have on the testicle? Would gangrene ensue or would it be a simple atrophy? What is our friend Brinkley doing? He is doing something of this sort. I did this operation once on a senile patient, unknown to him, to calm a violent sexual mania. The operation was entirely successful. How safe is this operation?

F. T. BRENNER, M.D., Quincy, Ill.

ANSWER.—The older method of treating prostatic hypertrophy by castration was abandoned not alone because it did not meet with favor by the patient but because it failed to give relief of the obstruction in too many cases to warrant so mutilating a procedure.

If a method of treatment that is intended to shrink the entire gland could be employed, its exposure to high voltage roentgen or radium irradiation should be successful, not to mention suprapubic drainage of the bladder, which is sometimes followed by the most marked diminution in the total size of the gland.

Unfortunately, it is not the diffuse hypertrophy of the gland that causes the obstruction but only that small part of it which impinges on the urethra.

At times this portion is comparatively small, consisting of but 2 or 3 Gm. of tissue, but if properly located may cause complete retention, while in another case a huge diffuse enlargement, if it does not encroach on the urethra, will result in little if any urinary obstruction.

Any rational therapy, therefore, must be directed against the removal of the portion of the gland causing the obstruction instead of against the entire gland. For this reason the new methods of transurethral resection of the obstructing tissue are meeting with much success.

A simple vasectomy in no way influences the portions of the prostate that are causing the urinary obstruction and hence is useless as a therapeutic measure for its relief. When it is performed, the arterial and venous vessels should not be cut

but simply the vas deferentia. Cutting of the vessels of the spermatic cord will usually lead to atrophy rather than gangrene of the testis. Such atrophy should be avoided, as few men, even of advanced years, care to be emasculated even indirectly. When employed for the treatment of a sexual mania, it may be justified. Vasectomy under sterile precautions is without risk and by many is considered an office procedure. Brinkley is said to employ it as a method of treatment for urinary obstruction the result of prostatic hypertrophy.

TREATMENT OF AMEBIASIS

To the Editor:—Will you please tell me what you consider the most effective treatment to date for amebiasis? We frequently see it down here. I have used emetine hydrochloride by needle, Anayodin. There is Lilly's preparation on the market, also another new chemical. Please give me your opinion. What do you think of Plasmochin (Merck) and Atabrine (Winthrop Chemical Company)? I have always used the standard quinine treatment with success, but there are a great many objections to it.

B. O. LEBLANC, M.D., St. Gabriel, La.

ANSWER.—According to a group of investigators in California and another group in India, both widely experienced in the treatment of amebiasis, Carbarsone (Lilly) is one of the most efficient remedies in this disease so far tested. However, many cases prove refractory to this as well as to the other remedies. Vioform-Ciba is claimed by the California group also to be high in efficiency, but this drug is said to be less effective than Carbarsone. Alternating courses of Vioform and Carbarsone are claimed to have given good results.

The present consensus is that emetine should be used only to control the symptoms of severe acute amebic dysentery and in liver abscess (or amebic abscess of other organs). Even small therapeutic doses of emetine have occasionally caused severe damage to the heart and other organs. Acetarsone-N. N. R. is reported to be more toxic and less effective than Carbarsone. Patients must be watched carefully for signs of arsenic toxicity when using either of these compounds. Good results have been obtained with Chiniofon-N. N. R. ("Yatren," "Anayodin") in sufficient dosage; this drug has been said to be less effective than Vioform, a closely related compound. Vioform has the advantage over Chiniofon that it does not cause diarrhea. However, clinical experience with Vioform has not yet been sufficiently extensive to determine its actual relative merit as an amebacide. Fairly good results have been reported by Indian workers with kurchi alkaloids, but Leake and his collaborators were unable to confirm this work. THE JOURNAL knows of no evidence for the usefulness of Plasmochin or Atabrine in amebiasis.

"Anayodin" is a proprietary name for a Chiniofon-N. N. R., marketed by Ernst Bischoff Company, Inc. The Council on Pharmacy and Chemistry was obliged to declare Anayodin inadmissible for New and Nonofficial Remedies because it is an unoriginal preparation marketed under a noninformative name without an adequate statement of composition, because no evidence is available to show that its identity and uniformity are adequately controlled, and because it is marketed with therapeutic claims that are unwarranted. Two brands of Chiniofon stand accepted for inclusion in New and Nonofficial Remedies, namely, that of G. D. Searle & Co. and that of the Winthrop Chemical Company. These have been examined in the A. M. A. Chemical Laboratory and found acceptable. The Winthrop brand was formerly known as Yatren but the firm has agreed to discontinue the use of this name.

Whichever drug or combination of drugs is used, it must be employed in sufficient dosage over a sufficient length of time, with due regard to necessary rest periods to avoid toxic manifestations. The result should always be checked by careful and repeated examinations of the stool for Endamoeba histolytica.

Chiniofon, Vioform, Acetarsone and Carbarsone stand accepted for New and Nonofficial Remedies.

NO NERVE CELL DEVELOPMENT AFTER BIRTH

To the Editor:—Is there any evidence to show that additional nerve cells are produced after birth?

L. A. CROWELL, JR., M.D., Lincolnton, N. C.

ANSWER.—In the white rat, Allen (*J. Comp. Neurol.* **22**:547, 1912) found that mitosis continued after birth in the spinal cord for twelve days and in the cerebrum for twenty-five days. But the white rat is born in an immature state and these observations cannot be taken as evidence that the same would hold true for the child. We have been unable to find any record of similar observations on human material but judging from the more mature state of the child at birth it would seem probable that in the human central nervous system mitosis ceases about the time of birth.

COMPRESSION FRACTURE OF LUMBAR VERTEBRAE

To the Editor:—Please outline for me the best recognized and used methods of treating compression fracture of the lumbar vertebrae in an adult. There are many methods outlined in textbooks and journals and I am at a loss to know which method is best to follow.

P. T. KILMAN, M.D., Malakoff, Texas.

ANSWER.—Much progress has been made during the last decade in the treatment of fractures of the spine. This is due chiefly to the contributions of J. O. Wallace (*J. Bone & Joint Surg.* **5**:28 [Jan.] 1923), A. G. Davis (*J. Bone & Joint Surg.* **11**:133 [Jan.] 1929; *Am. J. Surg.* **15**:325 [Feb.] 1932), W. A. Rogers (*Surg., Gynec. & Obst.* **50**:101 [Jan.] 1930), R. Watson Jones (*Brit. M. J.* **1**:300 [Feb. 21] 1931), Dunlop and Parker (THE JOURNAL, Jan. 11, 1930, p. 89; *Radiology* **17**:228 [Aug.] 1931) and Böhler.

A comprehensive, simple outline to follow, is to transport the patient with his face downward; transfer him to a Rogers hyperextension frame; administer an anesthetic; accomplish gradual hyperextension; apply a plaster-of-paris cast, and if necessary perform a fusion operation through a window in the cast.

No one method can be used for all types of spinal fractures. Each case demands individual treatment.

Davis stated that the procedure of reduction and the making of his plaster shell requires an hour and a half. There was an average period of seven weeks of shell treatment, followed by an average of six more weeks of convalescent ambulatory treatment with a hyperextended Taylor brace or jacket.

Complete reduction of fresh crush fractures is possible when adequate hyperextension and fixation have been accomplished. Several adequate methods of hyperextension are now available. R. Watson Jones advocates a method of reducing crush fractures of the spine that appears safe and simple.

Dunlop and Parker described a method of forcible extension during traction producing decompression and reduction. The patient is given a general anesthetic; strong traction and countertraction are obtained by having two assistants pull downward on the ankles, while two others pull strongly upward on sheets crossed beneath the shoulders and over the chest. A sheet is folded to a width of 8 inches and is passed beneath the injured segments as the patient lies on his back. Then by means of this sheet the operator and his assistant toss the patient straight upward and catch his weight while he is still in hyperextension. Strong traction is maintained through this maneuver. After decompression has been accomplished the reduction is maintained by placing the patient in marked hyperextension on a Goldthwait frame while he is still completely relaxed. A cast is then applied.

In his most recent contribution, R. Watson Jones reports the results of treatment of eighty cases of crush fractures of the spine by his own method, which requires no special apparatus, no skilled assistants, no manipulation of the spine and no anesthetic. The treatment is ambulatory throughout. The only contraindication to his hyperextension treatment is the very rare comminuted hyperextension fracture of the vertebral body.

No mention was made in the query of spinal cord symptoms.

GLANDULAR CONTROL OF SIZE OF BREAST

To the Editor:—I have a patient, a Jewess, aged 17, who began menstruating at 13 years of age. She is 5 feet 1 inch (155 cm.) tall, weighs 117 pounds (53 Kg.) and is well proportioned. The menstrual periods are regular and apparently normal. The basal metabolism is plus 5. A roentgenogram of the pituitary shows a very small sella turcica, the anterior and posterior clinoid processes are closely approximating each other. She has never been ill except when the tonsils were removed. The trouble is bilateral hyperplasia of the breasts. The breasts began to enlarge at 14 years of age and enlarged rapidly for about one year. Since then the enlargement has been slow. Each breast will easily fill the hat of a man. There is no glandular enlargement in the axilla or the neck. There is no evidence of circumscribed tumor in either, no pain nor tenderness, no retraction of the nipple, no adherence to the skin. Could this be due to the predominance of the sex stimulating hormone over the growth promoting hormone of the anterior pituitary? Is there any effective treatment other than amputation?

M.D., Texas.

ANSWER.—Excess production of the gonad and mammary stimulating hormone from the hypophysis will increase the size of the mammary glands, even in the mammalian male, but the absence of indications of other disturbed anterior lobe functions and the absence of indications of disturbed ovarian functions seems to render this explanation improbable. There may be unusual sensitiveness of the mammary glands on a hereditary

basis, so that the normal hypophyseal and ovarian factors produce excess response in this particular patient.

As to experimental therapy, the following might be tried:

1. Without reference to the cause of the unusual breast enlargement, reduction of the breast size might be attempted by continued pressure (taping or strapping) on the basis of pressure atrophy. Such measures should be as continuous as possible and sufficient to reduce circulation markedly through the breasts.

2. If a thorough trial of the pressure atrophy principle should prove unsatisfactory, high voltage roentgen therapy of the hypophyseal region might be instituted experimentally with great care, with the possibility that an overactive group of gland cells may be more sensitive to the x-rays than the normally acting gland cells. It is obviously important for so young a patient that injury to the parts of the normally functioning hypophysis be avoided.

POLYURIA IN TACHYCARDIA

To the Editor:—A woman, aged 55, has had recurrent attacks of paroxysmal tachycardia at about weekly intervals. The attacks generally wake her from sound sleep. About ten minutes after the onset she passes tremendous quantities of very pale urine (as much as 3 quarts). After about an hour the heart slows down and the urination ceases abruptly. Following these attacks she feels excessively thirsty and drinks a comparable amount of water. This thirst persists for a day or more. I have been unable to find any explanation for this sudden, transient polyuria. Have you any information as to the mechanism of this strange symptom? Please omit name.

M.D., New York.

ANSWER.—Polyuria during an attack of paroxysmal tachycardia is apparently of infrequent occurrence. Lambert quotes Hart's description of a case in which both diarrhea and polyuria were present during the paroxysm. No explanation is offered. Price comments on the fact that polyuria not infrequently follows a prolonged attack in which there has been impairment of the circulation with congestion, and, on restoration of normal cardiac function, diuresis follows:

Lewis says: "The patient's symptoms are much influenced by the reaction of the nervous system. Nervous subjects, especially women, awaken undue anxiety." That apprehension exists with the attack in spite of reassurance and repetition of a favorable outcome is a common observation. That there is a definite neurogenic factor in renal excretion is generally accepted (MacLeod) although the burden of proof has been that the kidneys do not possess secretory nerves. It is frequently noted, however, that under stress of excitement or anxiety diuresis is initiated.

This mechanism, then, must be a vasomotor effect resulting in an increase of blood flow through the kidney with or without a general increase of blood pressure.

When the heart is anatomically unimpaired, paroxysmal tachycardia, unless extremely prolonged, does not alter its efficiency, and circulation is well maintained (Lewis). Reflex phenomena affecting the sympathetic nervous system, such as sweating and dilatation of the superficial vessels of the skin, commonly occur. It is possible that similar reflex vasodilatation might occur in the kidneys.

While the general blood pressure is usually lowered during an attack of paroxysmal tachycardia, exceptional cases may occur presenting an increased blood pressure.

CODEINE PHOSPHATE IN SOLUTIONS—COLORING OILY SOLUTIONS

To the Editor:—1. In the following prescription is there any way to mix the ingredients to avoid precipitation of the codeine present?

	Per Ounce
℞ Ammonium chloride	8 grains
Codein phosphate	2 grains
Chloroform	2 minims
Syrup of prunus virginiana, q.s. ad	1 ounce

2. What will color oily solutions red and yellow readily? Please omit name and address.

M.D., Conn.

ANSWER.—The syrup of wild cherry is responsible for the precipitation, which is obviously due to the tannic acid it contains and the formation of a codeine tannate. This can be avoided by using some other syrupy vehicle, such as the syrup of raspberry. Even with such a syrup a temporary precipitation—salting out—of the alkaloid occurs if an attempt is made to dissolve each of the solid ingredients in the smallest amount of water required for solution and then mix these. Although this precipitate dissolves on standing after the addition of the syrup, it is probably better to dissolve each of the solids in half of the syrup and then mix the two.

2. For red coloring of oils, alkanet is used; for yellow one might use the ordinary "butter yellow," which is dimethylamido-azo-benzene.

DINITROPHENOL CONTRAINDICATED IN DIABETES

To the Editor:—Several diabetic patients are requesting me to prescribe dinitrophenol for reducing. I have not seen an article on the use of this drug when it was advised or not advised to be used in such cases. Have you any opinion on the subject?

S. L. WEISBROD, M.D., Milford, Mich.

ANSWER.—In the light of the fatal poisoning that has occurred with dinitrophenol, there is little to be said in favor of using the drug for reducing anybody. There are even stronger reasons to oppose the use of dinitrophenol when the patient has diabetes. The tolerance in diabetes is depressed by measures of all kinds that elevate the basal metabolic rate, and this is the action of dinitrophenol. Furthermore, the liver is less able to withstand toxic substances when its glycogen reserves are diminished, as they always are in diabetic acidosis. For these reasons dinitrophenol is distinctly contraindicated in diabetes.

PARAFFINIZATION OF LENIN

To the Editor:—I should like to know whether the process whereby Lenin of the Soviet government has been embalmed has been revealed. What probabilities are there, if any, to your knowledge? Please omit name.

M.D., New York.

ANSWER.—No record has been found of the process of embalming the body of Lenin. There are many indications, however, that the body was embalmed by infiltration, most likely with paraffin or some similar preparation. Successful paraffinization of large anatomic specimens, including the adult human bust, has been accomplished. See Ara, Pedro: The Process of Embalming, *J. Technical Methods and Bull. of the International Association of Medical Museums*, 1934, No. 13, page 36.

AMEBIASIS WITH CONSTIPATION

To the Editor:—I have a patient who says that amebas have been found in his stools and that he has never had diarrhea. On the contrary, he is constipated. Please advise whether this is possible. Is any special dietary restriction necessary in the treatment of such a conditon? If so, please outline. Please omit name.

M.D., Kentucky.

ANSWER.—The history given is entirely within the realm of clinical possibilities. If the amebas are positively identified as Endamoeba histolytica, suitable treatment with emetine, vioform, chiniofon or carbarsone, or other amebacidal drugs should be instituted. The diet during the course of treatment should be bland.

PROPER CARE OF ORBIT WITH GLASS EYE

To the Editor:—I have a patient troubled with a mucopurulent secretion around his glass eye. Will you please send me a prescription for a solution that will inhibit or stop this? He has used the glass eye for several years. Please omit name.

M.D., California.

ANSWER.—The patient may use saturated boric acid solutions to irrigate the conjunctiva, after removing the prosthesis, two or three times a day, drying the conjunctival sac with a cotton applicator and instilling powdered boric crystals afterward. In addition, 0.5 to 0.75 per cent zinc acetate made up in saturated boric solution should be used four times a day. It is well to have the patient discontinue using the prosthesis for two or three days at a time, after which one gets better results with this treatment.

"LIVER GROWN"

To the Editor:—As you probably recall, there have been several references in THE JOURNAL in the past few months to the condition called "liver grown." In reading Haggard's "Devils, Drugs and Doctors," page 186, I note a list of causes of death for the week Aug. 15 to 22, 1665. This seems to be a report of the city of London, England. "Liver grown" appears as the cause of one death, column two, down five. It is interesting to note the name being used almost three hundred years ago even if we do not know the disease.

RODERICK L. HUNTRESS, M.D., South Portland, Me.

ARSPHENAMINE REACTIONS

To the Editor:—Referring to your discussion on "Reactions After Arsphenamine" in Queries and Minor Notes in THE JOURNAL, May 12, page 1633, may I suggest also that the needles be boiled separate from the syringes and that there be no metal on the syringes. I have found better results from this technic.

HARRY H. RICH, M.D., Newark, N. J.

Council on Medical Education and Hospitals

COMING EXAMINATIONS

ALABAMA: Montgomery, July 10-13. Sec., Dr. J. N. Baker, 519 Dexter Ave., Montgomery.

AMERICAN BOARD OF OPHTHALMOLOGY: Butte, Mont., July 17. Sec., Dr. William H. Wilder, 122 S. Michigan Blvd., Chicago.

ARIZONA: Phoenix, July 3. Sec., Dr. J. H. Patterson, 320 Security Bldg., Phoenix.

CALIFORNIA: San Francisco, July 9-12, and Los Angeles, July 23-26. Sec., Dr. Charles B. Pinkham, 420 State Office Bldg., Sacramento.

COLORADO: Denver, July 3-6. Sec., Dr. Wm. Whitridge Williams, 422 State Office Bldg., Denver.

CONNECTICUT: *Regular.* Hartford, July 10-11. *Endorsement.* Hartford, July 24. Sec., Dr. Thomas P. Murdock, 147 W. Main St., Meriden. *Homeopathic.* New Haven, July 10. Sec., Dr. Edwin C. M. Hall, 82 Grand Ave., New Haven.

DISTRICT OF COLUMBIA: *Basic Science.* Washington, June 25-26. *Medical.* Washington, July 9-10. Sec., Commission on Licensure, Dr. W. C. Fowler, 203 District Bldg., Washington.

ILLINOIS: Chicago, June 26-29. Supt. of Regis., Dept. of Regis. and Edu., Mr. Eugene R. Schwartz, Springfield.

MAINE: Augusta, July 5-6. Sec., Board of Regis. of Medicine, Dr. Adam P. Leighton Jr., 192 State St., Portland.

MASSACHUSETTS: Boston, July 10-12. Sec., Board of Regis. in Medicine, Dr. Stephen Rushmore, 144 State House, Boston.

MISSISSIPPI: Jackson, June 26-27. Sec., State Board of Health, Dr. Felix J. Underwood, Jackson.

NATIONAL BOARD OF MEDICAL EXAMINERS: The examinations in Parts I and II will be held at centers in the United States where there are five or more candidates, June 25-27 and Sept. 12-14. Ex. Sec., Mr. Everett S. Elwood, 225 S. 15th St., Philadelphia.

NEVADA: *Reciprocity.* Carson City, Aug. 6. Sec., Dr. Edward E. Hamer, Carson City.

NEW YORK: Albany, Buffalo, New York and Syracuse, June 25-28. Chief, Professional Examinations Bureau, Mr. Herbert J. Hamilton, Room 315 Education Bldg., Albany.

NORTH DAKOTA: Grand Forks, July 3-6. Sec., Dr. G. M. Williamson, 4½ S. 3d St., Grand Forks.

OREGON: Portland, July 3-6. Sec., Dr. Joseph F. Wood, 509 Selling Building, Portland.

PENNSYLVANIA: Philadelphia and Pittsburgh, July 10-14. Sec., Board of Medical Education and Licensure, Mr. W. M. Denison, 400 Education Bldg., Harrisburg.

RHODE ISLAND: Providence, July 5-6. Dir., Public Health Commission, Dr. Lester A. Round, 319 State Office Bldg., Providence.

SOUTH CAROLINA: Columbia, June 26. Sec., Dr. A. Earle Boozer, 505 Saluda Ave., Columbia.

SOUTH DAKOTA: Rapid City, July 17-18. Dir., Division of Medical Licensure, Dr. Park B. Jenkins, Pierre.

UTAH: Salt Lake City, June 27-29. Dir., Department of Registration, Mr. S. W. Golding, 326 State Capitol Bldg., Salt Lake City.

WASHINGTON: *Basic Science.* Seattle, July 16-17. *Medical.* Seattle, July 19-21. Dir., Department of Licenses, Mr. Harry C. Huse, Olympia.

VIRGINIA: Wheeling, July 9. State Health Commissioner, Dr. Arthur E. McClue, Charleston.

WISCONSIN: Milwaukee, June 26-29. Sec., Dr. Robert E. Flynn, 401 Main St., LaCrosse.

West Virginia March Report

Dr. Arthur E. McClue, state health commissioner, reports the oral and written examination held in Charleston, March 12-14, 1934. The examination covered 11 subjects and included 110 questions. An average of 80 per cent was required to pass. Four candidates were examined, all of whom passed. Six physicians were licensed by reciprocity and 1 physician was licensed by endorsement. The following schools were represented:

School — PASSED	Year Grad.	Per Cent
Northwestern University Medical School	(1933)	89.4
Rush Medical College	(1930)	85
Medical College of Virginia	(1932)	86
Medizinische Fakultät der Universität Wien	(1929)*	83.5

School — LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Columbian University Medical Department, D.C.	(1892)	Penna.
Johns Hopkins Univ. School of Medicine	(1924) Md., (1930)	Penna.
Medical College of Virginia	(1928, 2), (1932)	Virginia

School — LICENSED BY ENDORSEMENT	Year Grad.	Endorsement of
University of Pennsylvania School of Medicine	(1932)	N. B. M. Ex.

* Verification of graduation in process.

Minnesota January Report

Dr. E. J. Engberg, secretary, Minnesota State Board of Medical Examiners, reports the oral, written and practical examination held in Minneapolis, Jan. 16-18, 1934. The examination covered 12 subjects and included 60 written questions. An average of 75 per cent was required to pass. Twenty-seven candidates were examined, all of whom passed. Three physicians were licensed by reciprocity. The following schools were represented:

School — PASSED	Year Grad.	Per Cent
Northwestern University Medical School	(1933)	87.1,* 91.6*
University of Illinois College of Medicine	(1932) 92.3, (1933) 92	89.3,
Indiana University School of Medicine	(1933)	86.2
University of Michigan Medical School	(1931)	89.5
University of Minnesota Medical School	(1930) (1932) 88.6, (1933) 85.1,* 86.2,* 86.3,* 86.6,* 87,* 87.4,* 88.4, 88.5, 89.1,* 89.2, 90.4, 92.5	86.3,
Washington University School of Medicine	(1932)	88.1
University of Oregon Medical School	(1932)	92.2
University of Manitoba Faculty of Medicine	(1929)	85.2
Queen's University Faculty of Medicine	(1927) (1930) 93.5	89.1,
McGill University Faculty of Medicine	(1932)	84.6

School — LICENSED BY RECIPROCITY	Year Grad.	Reciprocity with
Loyola University School of Medicine	(1921)	Illinois
University of Michigan Medical School	(1925)	Wisconsin
Marquette University School of Medicine	(1932)	Wisconsin

* This applicant has received an M.B. degree and will receive an M.D. degree on completion of an internship.

Book Notices

Diet and Dental Health. By Milton T. Hanke. Cloth. Price, $1; after February 1, 1934, $4. Pp. 236, with illustrations. Chicago: University of Chicago Press, 1933.

The author states that the primary object of the book is to present detailed information concerning studies on dental problems carried out in the laboratories of the Otho S. A. Sprague Memorial Institute at the University of Chicago by the Chicago Dental Research Club, other collaborators and himself during four years. No attempt is made to give detailed descriptions of studies and theories of other investigators. The subject is approached from the view that disease is a disturbance in metabolism, a reaction of body tissues to and against some unfavorable circumstance, and that dental diseases do not differ fundamentally from other diseases in this respect. Chapters II and III discuss dental structures and the simpler dental diseases. Chapters IV and V deal with the histopathology of scurvy in the guinea-pig. The remainder of the book is devoted to experiences with dental diseases in people: Chapter VI summarizes investigations of the relation of dietary deficiencies to gingival irritation, pyorrhea and dental caries from observations on 191 patients of members of the Chicago Dental Research Club. Chapter VII notes benefits derived from ingestion of an adequate diet. It is postulated that the American diet is deficient in vitamin C and that this may be a factor in dental diseases.

Part II outlines observations on 440 children at "Mooseheart," the City of Childhood of the Loyal Order of Moose at Mooseheart, Ill. This part of the work was financed by the California Fruit Growers Exchange. Chapter IX outlines the plan of study. A group of 341 children were under observation for three and one-half years, which time was divided into three periods: a one year control period in which the children received the standard Mooseheart diet, a one year test period in which one pint of orange juice and the juice of one lemon were given each individual daily in addition to the standard diet, and a recheck period of one and one-half years in which 3 ounces of orange juice was served daily. A control group of ninety-nine children receiving the standard diet but no citrus fruit juice was introduced during the test period to serve as an additional check. The experimental procedures followed during the control period and the results obtained are described. Chapter X gives the observations of the test period, including those on the control group. Chapter XI outlines the observations of the recheck period. The bibliography provides some important published reports on the subject. The appendix presents tabulated data from the observations on the children. A number of plates illustrate the dental and oral conditions discussed.

The general conclusions of the book follow:

1. The average American diet is adequate in calories but appears to be deficient in certain substances requisite to dental health, which may be the ultimate cause of much gingivitis, pyorrhea and dental caries.

2. Gingivitis and dental caries can occur in the majority of a large group of children receiving a quart of milk, 1½ ounces of butter, a pound of vegetables, half a pound of fruit, and nearly one egg a day. These foods do not, therefore, contain substances specifically antagonistic to gingivitis or dental caries.

3. The addition of a pint of orange juice and the juice of one lemon to a diet that is nearly adequate in all other respects supplies something that leads to a disappearance of most of the gingivitis and an arrest of about 50 per cent of the dental caries.

4. Dental caries again becomes rampant and gingivitis redevelops in most of the cases when the citrus fruit intake is reduced to 3 ounces a day for one year. This quantity is not enough.

5. Children display a definite tendency toward the development of carious lesions which is nil or low in some cases and high in others. The administration of an adequate amount of citrus fruit juice to a diet that is nearly adequate in other respects reduces the intensity of the caries process but does not completely remove the effects of the inherent tendency in all cases.

6. Orange and lemon juice contain something that acts as a growth stimulus to children.

It is difficult to evaluate this book in a thoroughly objective manner. To the untutored layman, its easy style and satisfying comments bring ready conviction. This is particularly true as its contributions seem to be vigorously fortified by the use of the names of distinguished research laboratories and academic institutions. On the other hand, a critical reader will discover not only much that is evasive and frankly debatable but also much that can scarcely claim to be more than possible, if indeed it is within the realm of scientific probability.

The main theses of the book are included in the somewhat surprising statements of paragraphs 2 and 3 of the conclusions quoted.

It is understood that the term gingivitis is loosely used by many writers. Some degree of superficial gingivitis will be detectable in almost any mouth and is readily relieved or managed by routine dental hygienic measures. This is a problem quite different from that presented by true scorbutic gingivitis. There is an implication throughout the book that despite the absence of diagnosed scurvy in the children studied they are subject to a sort of latent or subacute scurvy, which makes itself evident in the gingivitis conditions. This is at best an unproved assumption, which the author attempts to support by analogy with guinea-pig and monkey scurvy. There is no real scientific evidence anywhere in the book to show that the children examined exhibited comparable scorbutic lesions or that they had any gingivitis of the type associated with human scurvy.

A few surprising features of the book may be briefly referred to: A comparison of plates VI and VII shows the feature D to be reversed in the form of the "curve" in one picture as compared with the other. What can this signify? Regarding plate XIII, all children have such plaques. What of it? The conception of dental diseases as evidenced by Hanke's descriptions is utterly inadequate. Some children are admittedly far more susceptible to caries than are others. The author has not been able to control this. Age is an important factor in the incidence of caries. It decreases as children grow older. This fact the author has ignored. The references to authorities on dental pathology largely overlook some of the best, such as Gottlieb, Orban and Chase.

The author's own uncertainties are exhibited in statements such as the following:

> Either the living processes in the dentine of the immune person's teeth remove the decalcifying agents as rapidly as they seep into the enamel or some change occurs in the oral cavity so that decalcifying agents are either not produced or are rapidly rendered ineffective. It is possible to alter some people's susceptibility to dental caries and this can, apparently, be accomplished in a number of ways.

The case studies such as the one on page 60 are very inadequate, if they are to serve as real evidence.

Judging by the prefatory statement of the members of the Chicago Dental Research Club at the outset, there was "conviction" as to the outcome even before the tests were made. Apparently all the examinations were made by only two dentists. They could not fail to know when the children were on the test periods. It is difficult to remain objective under such conditions.

The key to the results with caries may be found in table XLII. It is quite as likely that the results recorded, if actually dependable, are due to some change within the mouth cavity.

It is an interesting circumstance that all the recent students of caries in children, for instance, Bunting, Boyd and Drain, and Agnew, also secured an arrest of caries after they began to work with their patients, although they used quite unlike procedures!

At the opening of chapter II, the author writes:

> Dental diseases are not fundamentally different from other diseases but they are comparatively easy to diagnose because the affected tissues are open to observation. Conditions in the mouth are certainly no more complicated than elsewhere in the body: they may, indeed, be simpler. We need to deal with only a few structures. Treatments, local and otherwise, may be given, and the response, if any, observed by direct inspection. Inasmuch as systemic disturbances frequently produce changes in the oral tissues, it is possible that conditions easily observable in the mouth may be an index of systemic disturbances of which we are only vaguely or not at all conscious. The oral cavity constitutes an excellent region for study.

Although the last sentence is fundamentally correct, the rest of the paragraph is contrary to the opinion of the best students of the subject.

An illustration of the author's dogmatism follows:

> Fully formed enamel consists of hexagonal prisms, or rods, held together by a very narrow band of cementing material. The body of the prisms appears to consist entirely of inorganic salts. The small amount of organic matter to be found in enamel appears to be contained exclusively in a narrow band that makes the dividing line between the prisms.

This is by no means a universally accepted doctrine.

The limitations of Hanke's argument are indicated in the following statement:

> The conclusion can probably be drawn that prescurvy, in man, can lead to changes in the pulp tissue and dentine of human teeth similar to those determined for the guinea-pig. The nature of the repair process will also, probably, be similar. Administration of vitamin C to mildly scorbutic animals leads to a complete repair of the dentine. Diets rich in vitamin C are conducive to an arrest of dental caries in man, and the arrest of caries may be due to an increased vitality of the dentine. Howe has shown that monkeys that have been partially deprived of vitamin C develop dental diseases identical with those encountered in man. Frank scurvy, in man, is grossly similar, if not identical, to frank scurvy in the guinea-pig. The facts presented in this chapter can, with a few intelligent reservations, probably be applied to man.

This is at best a theory of probabilities. As for the work of Howe, it is believed by many that his monkeys suffered from multiple dietary deficiencies; and nothing is contributed thereby to the caries problem.

The principal criticism of the dietary program is that there are no records for the intakes of individual children. The food supplies are reported in terms of the entire group. There is no assurance regarding the eating habits of the individual child. How can the use of the products in table V, page 79, be evaluated? Certainly this does not represent a daily intake; it represents purchases over a period of time. What assurance is there that "all of these children were ingesting the same food and they were living under identical conditions. The food and the living conditions cannot, by themselves, then, be the determining factor."

The author correctly states (p. 103) that:

> The changes observed during this test period may just as correctly be attributed to the increased adequacy of the diet as to a specific characteristic of the citrus fruit juice.

This is quite different from the impression that is promulgated throughout the book.

The author makes the debatable statements:

> The inflammation can hardly, therefore, be said to have been due to the materia alba or plaque deposits. It is rather more logical to assume that the inflammation is initiated by an impairment in the circulation due, in turn, to a deficiency in the diet. . . . The results obtained with five children in this group strengthens our belief that vitamin C is an important factor in maintaining the health of the gingivae (p. 103).
>
> The addition to the diet of one constituent, in which this diet was deficient, has produced a change such that about half of the children who had previously been afflicted with dental caries did not develop carious lesions during a one-year period (p. 109).

Mixtures of orange and lemon juice add several factors to the diet.

What is one to conclude from the statement (p. 118):

> These children were receiving the standard Mooseheart diet; but they were not supposed to (and most of them did not) receive additional orange or lemon juice.

The author states (p. 120) that:

> The addition of a pint of orange juice and the juice of one lemon to the daily diet leads to an almost complete disappearance of the gingivitis, a 50 per cent reduction in the incidence of dental caries, and a marked increase in the rate of growth.

These diets were probably inferior at the start!

On page 121, the author writes:

It is immediately apparent that the only major fluctuation in this diet, during a three and one-half year period, is in its citrus fruit content. This increases from 0.062 lb. in the control period to more than 1.0 lb. during the test period and then decreases to 0.28 lb. during the recheck period. The amount of citrus fruit ingested during the recheck period is equal to approximately three ounces of orange juice a day, which is the amount that is usually considered to be adequate.

To what extent did the citrus fruit juices supply added energy (280 calories a day?) and their vitamin B promote greater intake of other foods?

The author comments on page 137:

Whether or not foods other than citrus fruit juices would be equally or more effective in overcoming the inherent tendency toward dental caries is a question that is not answered by our studies.

Apparently the possible variations in sugar, for instance, have not been considered in drawing conclusions. One cannot tell what the effect of 1 pint of orange juice a day was on the food habits of the children.

The theorizing of the author regarding the rôle of vitamin C in these studies is, like so much else, quite problematic and debatable. There is too much inference that vitamin C is the effective factor. Little recognition is given to other factors.

The book does not furnish cogent evidence for the thesis that orange and lemon juices are specifics for the cure or prevention of gingivitis and caries.

Chronic Nephritis and Lead Poisoning. By L. J. Jarvis Nye, M.B., Ch.M. Cloth. Price, 12/6. Pp. 145, with illustrations. Sydney, Australia: Angus & Robertson, Ltd., 1933.

For many years there has been much more chronic nephritis among young people in Queensland than in any other area of Australia. The author develops the thesis that lead poisoning among infants and children is the cause of this increased incidence. To prove his contention he examined and here reviews considerable relevant statistical material concerning, for example, the relative incidence of chronic nephritis and of lead poisoning in the various Australian states, the remarkable prevalence of infantile lead poisoning in Queensland, the incidence of chronic nephritis as a sequel to plumbism, the criteria necessary for a diagnosis of plumbism, and other data. In discussing the diagnosis of lead poisoning, he states that occasionally, in severe, typical cases, there is no lead in the urine. In particular, Nye studied, over a period of six years, 186 cases of chronic interstitial nephritis among persons less than 40 years of age. Evidence is presented that the sclerosing agent responsible for Queensland's excess of juvenile nephritis was not directly related to scarlet fever, respiratory infections, syphilis or other infectious diseases, or to climatic factors. A large number of the nephritic children studied by the author and by others had sometime previously been treated for lead poisoning. Lead was found in the urine of the majority of these nephritic children, most of whom were addicted to nail biting and finger sucking. If one of several children in a family escaped nephritis, that one was generally found not to be addicted to these habits. Data are given to indicate that the lead absorbed was not from the water supply, home reservoir tanks, sprayed vegetables, utensils or toys but from the lead carbonate available in house paint on veranda railings of Queensland's characteristic frame houses. The paint became readily desiccated as a result of the tropical climate. The author contends that the finger-sucking children introduce this powdered paint into their systems. The chemical and pathologic features of the resultant nephritis are described: chronic interstitial nephritis (arteriosclerotic contracted kidneys of the diffuse sclerotic type) associated with anemia, hypertension, retinal changes and azotemia. While Nye admits, of course, that lead poisoning is not the only cause of chronic interstitial nephritis, and that many victims of moderate lead poisoning probably escape significant renal injury, he concludes that in chronic nephritis among young adults lead is the first etiologic factor to be excluded and that every child suffering from lead poisoning is potentially a victim of chronic nephritis in later life. Recommendations concerning prevention by the use of an improved formula for paint are given. Although the author's researches suggest that the subject is a problem particularly of his own locality, the book should be of considerably more than local interest, and it may stimulate significant inquiries in other places. If persons with nephritis individually or collectively can be shown by others to be suffering in an appreciable number of instances from related plumbism, the publisher's contentions may be fully justified that as a contribution to medical science this work is "the most important to come out of Queensland since Bancroft discovered the adult filarial worm fifty-seven years ago."

Practical Methods in Biochemistry. By Frederick C. Koch, Professor of Physiological Chemistry, University of Chicago. Cloth. Price, $2.25. Pp. 282, with 17 illustrations. Baltimore: William Wood & Company, 1934.

This is a laboratory manual intended primarily for the use of medical students, for which purpose it appears to be admirably adapted. It is sufficiently complete and so organized that it will be found an excellent book of reference for those interested in the details of biochemical methods. The work is divided into three parts: the chemistry of cell constituents, which includes chapters on carbohydrates, lipins, proteins, nucleoproteins and nucleic acids, and hydrogen ion concentration; the chemistry of the digestive tract, containing sections on salivary, gastric and intestinal digestion and on the bile; the blood and urine, under which heading the author considers blood and hemoglobin, quantitative analysis of blood, quantitative analysis of urine, and chemical examination of urine for pathologic constituents. An unusually detailed appendix contains instructions for the use and care of apparatus and reagents and for the preparation of solutions. This volume is unusually well written; instructions are clear and meticulously accurate; explanatory notes of considerable assistance to students are liberally interspersed throughout the text; the scope of the subject matter is exceptionally broad. These and other features all contribute to making the work easily one of the most valuable textbooks in practical biochemistry now available.

Undersøgelser over de serologiske Blodtype-Egenskaber M og N (Landsteiner & Levine). Af Johs. Clausen. (Mit deutscher Zusammenfassung). Paper. Pp. 104. Copenhagen: Levin & Munksgaard, 1934.

This is a thesis for the doctor's degree. In 1927 Landsteiner and Levine described certain new receptors in human red blood cells which they designated M, N and P. The receptors M and N are well defined and hereditary factors which are present as M, N or M N consequently can be used to differentiate blood for practical purposes. In his thesis Clausen discusses completely the technic of demonstrating receptors by immunization and purification of the immune serum by means of specific absorption; their heredity; their chief characteristics; their absence outside the red blood cells; their medicolegal significance, and the lack of any evidence that they are of any harm in blood transfusion. The thesis is in Danish; there is a German summary, which is not quite adequate because it tells too much what was done and too little of the actual results obtained.

Review of Legal Education in the United States and Canada for the Year 1933. By Alfred Z. Reed, Staff Member in Charge of the Study of Legal Education. Paper. Pp. 67. New York: Carnegie Foundation for the Advancement of Teaching, 1934.

In this review Mr. Alfred Z. Reed presents a discussion of the broad topic, "Learned Professions and Their Organization." He specifies three groups that are especially interested in finding their way through the educational labyrinth: the university authorities; the legislatures, foundations and individual benefactors, from whom financial support is derived, and the students who must choose from among the educational opportunities confronting them. "The solution," Mr. Reed declares, "cannot be delegated to practitioners' associations or coordinating associations. After paying his compliments to the American tendencies toward organization and specialization, the author describes three methods of state regulation of professions. In England, quite generally, specially privileged corporations have been created, livery companies, royal colleges, societies, inns, institutions and institutes, which exercise the function of admitting to practice. At the other extreme a state may provide a professional service directly through the agency of its own officials. Intermediate between these two is the system of issuing individual licenses under governmental authority, a

procedure widely prevalent in the United States. Included is a list of law schools in the United States and Canada segregated into two groups, those requiring full time attendance, of which there are eighty-three, and those which demand only a part of the student's time, numbering 107. Copies of this review and of other publications dealing with legal education may be had without charge at the office of the foundation, 522 Fifth Avenue, New York.

La lutte internationale contre le cancer. Par le Docteur Jacques Bandaline, directeur de l'Institut de Physiothérapie de Biarritz. Avant-propos des Professeurs Ferdinand Blumenthal, A. H. Roffo, C. O. Jensen, C. C. Little, W. M. de Vries, Pietro Gallenga et V. Rubesca. Préfaces du Sénateur Justin Godart, ministre de la Santé Publique et du Professeur Gustave Roussy, director de l'Institut du Cancer de Paris. Paper. Price, 145 francs. Pp. 947, with 46 illustrations. Paris: Norbert Maloine, 1933.

In this volume the author has attempted to review cancer control activities in about fifty countries. The development of the cancer problem in France is given in chronological order and is of considerable historical interest. The author presents a variety of details, including the organization of cancer hospitals, the formation of local, national and international anti-cancer societies, the researches and publications of different authors, the personnel and equipment of cancer institutes and some of their published results. The sources of income and budgets are given and the names and addresses of officials of various cancer societies and organizations are listed. The author has attempted to accomplish a unique and difficult task. He has succeeded in evolving a publication that contains much useful information that is scattered in the literature. Apparently he has not had the opportunity to visit many of the institutions he describes, so that the compilation lacks a critical point of view. The volume contains much interesting information and affords a useful guide to any one interested in the problem of cancer control as it is practiced in the various countries of the world. There is probably no other treatise that has attempted to present the same type of material from a similar point of view. The author is to be congratulated on his industry in gathering such an extensive mass of data from widely scattered sources. Those interested in these phases of the cancer problem will find the book a valuable source of information.

The Study of Anatomy Written for the Medical Student. By S. E. Whitnall, M.A., M.D., B.Ch., Robert Reford Professor of Anatomy, McGill University, Montreal. Second edition. Cloth. Price, $1.50. Pp. 93. Baltimore: William Wood & Company, 1933.

This little book might have had another title; to wit, "Guiding Principles for the Study of Anatomy and the Mental Life of Medical Students." The guides for the study of anatomy are, in brief, the following: 1. The student should know the body rather than the book. 2. Main structures are more important than details. 3. Anatomy must be absorbed slowly and repeatedly. For technic, the author advises (1) careful dissection with a sharp knife and (2) study of the dissection by drawing it, describing it and comparing it with cross sections. Among the suggestions for healthy mental life are to (1) make a lifelong friend of the first textbook of anatomy, (2) study some "popular" and foreign books on anatomy for collateral reading, (3) seek mental recreation in some side interest, (4) learn the value of humor and laughter as therapeutic agents, (5) have a bedside library, such as Osler's ten books, and through it develop the mind of a scholar and a gentleman, and (6) remember that "one third of your work will be entered on other books than yours": work as counselor and friend. The book is well written in a wise and kindly way. It will commend itself. The students who read it will be influenced through it to be happier and sounder doctors, wiser friends and better gentlemen.

Szpitale ogólne w Polsce, i Polskie Towarzystwo Szpitalolectwa. Les Hôpitaux généraux en Pologne, i. Association Polonaise des Hôpitaux. Paper. Pp. 83, with illustrations. Warsaw: Polish Medical Press, Propaganda Office, 1933.

This is the first number of a series to be published as follows: Contagious Diseases and Tuberculosis in 1935, Psychopathic Institutions in 1937, Maternity and Children's Hospitals in 1939, Clinical Hospitals in 1941. The treatise on General Hospitals for the ensuing ten years will be published in 1943. General hospitals are operated chiefly by municipalities or counties. Those operated by the government are of recent date and few, and they are managed by the health insurance office (a government institution). In 1932 Poland had one hospital bed to each 453 inhabitants and only 47 hospitals of 250 beds or over in the total number of 726 hospitals with 70,937 beds. The population of Poland according to the census of 1932 is 32,132,936. A questionnaire disclosed an urgent necessity of at least two beds per thousand inhabitants as well as a general desire of the removal of hospitals from the influence of health insurance and advisability of conducting a course for hospital directors.

The Management of Fractures, Dislocations, and Sprains. By John Albert Key, B.S., M.D., Clinical Professor of Orthopedic Surgery, Washington University School of Medicine, and H. Earle Conwell, M.D., F.A.C.S., Orthopedic Surgeon for the Tennessee Coal, Iron and Railroad Company, Birmingham, Alabama. Cloth. Price, $15. Pp. 1164, with 1165 illustrations. St. Louis: C. V. Mosby Company, 1934.

Written by two authors geographically separated yet representing the best of present-day practice and academic influence, a new volume on the treatment of fractures, dislocations and sprains appears. It is a complete review of accepted methods and cannot fail to be helpful on any controversial point to the reader who seeks real information, because it contains the advice of two men qualified to speak on the subject, given without reserve. The print is plain, easy to read, and indexed with subject headings. The size of the volume is quite overpowering, but the range of its contents may make this necessary. As an expression of the advance in the South of accepted methods of treatment, this book is excellent and its influence will do much to help the rising generation of practitioners.

Anatomie des Menschen: Ein Lehrbuch für Studierende und Ärzte. Band II: Eingeweide (einschliesslich peripherer Leitungsbahnen I.) Von Hermann Braus, weil. o. ö. Professor an der Universität Würzburg. Bearbeitet von Curt Elze, o. ö. Professor an der Universität Rostock. Second edition. Cloth. Price, 45 marks. Pp. 710, with 332 illustrations. Berlin: Julius Springer, 1934.

This is well known as the textbook of anatomy that deals especially with the living working human body. It is also characterized by the way in which cognate sciences, such as embryology and comparative anatomy, are made to add to insight into human anatomy. The book consists of three volumes. Braus published the first two (Bewegungs-Apparat and Eingeweide) but died in 1924 before the third volume (Central Nervensystem) was fully prepared. Professor Kurt Elze of Rostok has succeeded Braus as editor. A second edition of volume I was published in 1929, the first part of the third volume appeared in 1932, and now the second edition of the second volume (Eingeweide) appears. It is welcomed by all students of anatomy. Professor Elze has included in this edition the results of recent research and has rewritten some parts because of new points of view. He has replaced about thirty of the original 329 illustrations with others now available and added a dozen or more new ones. These changes affect especially the sections dealing with fields in which investigation has been most active; e. g., the endocrine glands and the gonads. The publisher has produced a book which is a delight to the student. An index covering both text and illustrations has been added to this edition, and it contributes greatly to the value and usefulness of the book.

Rôle du système nerveux et des facteurs biologiques et psychiques dans l'immunité. Par S. Métalnikov. Monographies de l'Institut Pasteur. Paper. Price, 28 francs. Pp. 166, with 26 illustrations. Paris: Masson & Cie, 1934.

This monograph gives a clear description of defense reactions in certain unicellular organisms, invertebrates and insects. Experiments are described to show that in some cases the nervous system plays an important part in immune phenomena, which may be stimulated through the nerves without the intervention of the blood. The rôle of conditioned reflexes in immune reactions is considered. Following the methods of Pavlov, Métalnikov claims that he himself as well as others have shown that reactions of immunity may be produced not only by the injection of antigens in rabbits and guinea-pigs but also by the excitation of conditioned reflexes in such animals previously injected with antigens; that is, through the imme-

diate intervention of the nervous system. The experiments described are highly interesting and while the results in antibody production from the excitation of conditioned reflexes do not seem fully convincing, the monograph will be of much interest to students of immunity.

Medicolegal

Malpractice: Release of Tort Feasor as Release of Physician from Liability.—The plaintiff's infant son, injured by a truck belonging to the Nassif Candy Company, was treated by the defendants, physicians employed by the father. Later the father, as guardian for his child, effected a compromise settlement with the candy company and released it from further liability. In this action, as guardian for the injured child, he sued the physicians for alleged damages attributed by him to their negligent and unskilful treatment of the child. In the trial court, the defendants contended that the release executed to the candy company released and discharged them from all liability for negligence charged against them. The trial court certified the case to the Supreme Court of Appeals of West Virginia.

The specific question for determination, said the Supreme Court of Appeals, is whether or not the release of one whose negligence causes physical injury to a person releases from liability a physician, chosen with due care by the injured person or by one acting for him, whose negligent treatment aggravates the original injury. The almost universal rule, said the court, is as follows:

> "It is a general rule that if an injured person uses ordinary care in selecting a physician . . ., the law regards an injury resulting from mistakes of the physician or his want of skill, or a failure of the means employed to effect a cure, as a part of the immediate and direct damages which naturally flow from the original injury."—*8 Ruling Case Law, p. 449.*

The law holds the person who caused the original injury liable for such damages as flow from the negligence of the attending physician, since but for that injury there would have been no such negligence. The original injury is the proximate cause of the damages due to malpractice. The original tort feasor being liable for the full consequences of the injury, it follows that a settlement with him which releases him from all further liability operates as an acquittance of the whole matter.

The plaintiff contended, however, that the candy company and the defendants were joint tort feasors and that therefore, under section 55-7-12, Code of 1931, a release of the candy company does not inure to the benefit of the defendants, the section reading:

> A release to . . . tort feasors shall not inure to the benefit of another . . . tort feasor, and shall be no bar to an action or suit against such other . . . tort feasor, for the same cause of action to which the release . . . relates.

While the section referred to does not use the term joint tort feasor, said the court, the section was intended to apply to all joint wrongdoers. But, said the Supreme Court of Appeals, the authorities make it clear that under the circumstances existing in this case the relationship of joint tort feasors does not exist.—*Stachlin v. Hochdoerfer* (Mo. Sup.), 235 S. W. 1060; *Fisher v. Milwaukee Electric Ry. & Light Co.*, 173 Wis. 57, 180 N. W. 269; *Phillips v. Werndorff* (Iowa), 243 N. W. 525. The judgment of the trial court against the plaintiff was affirmed.—*Mier v. Yoho et al. (W. Va.), 171 S. E. 535.*

Insurance, Health: "Necessarily Confined to Bed" Construed.—The defendant company issued to the plaintiff an insurance policy providing certain benefits if the insured by reason of illness was "necessarily confined to bed." The plaintiff had a severe case of chronic bronchial asthma. The company paid him the agreed benefits for the first week but refused to make further payments, contending that his illness did not necessarily confine him to bed. The plaintiff brought suit but at the close of his testimony the trial court dismissed the case, holding that the evidence showed that the plaintiff was not actually confined to his bed during the time for which he sought to recover benefits. The plaintiff thereupon appealed to the Supreme Court of South Carolina.

The evidence showed that the plaintiff had been a "bed patient" practically all of the time for which benefits were sought. The plaintiff testified, however, that he had not been in bed all the time, as he felt easier when he was up, that he had walked some—short distances—and that he had gone to the office of his physician at times to see him. In the numerous cases, said the Supreme Court, in which the words "confined to the house" and "confined within the house" have been construed, it has been generally held that such clauses should be given reasonable construction and that recovery may be had where there is a "substantial confinement to the house," although the insured may have gone out of the house to get air or sunshine or to see his physician, or for some other necessary purpose. With respect to the clause "confined to bed," in *Bradshaw v. Association*, 112 Mo. App. 435, 87 S. W. 46, the court said:

> We would not, of course, hold that this clause meant that a patient must stay every minute in bed for his right to indemnity to accrue, but the manifest purpose of the policy was not to indemnify for loss of time due to sickness unless the patient was bedridden in a substantial sense.

Again, in *Hays v. Association*, 127 Mo. App. 195, 104 S. W. 1141, the court held that the insured was "entirely and continuously confined to bed," within the terms of a health policy, when he was confined to bed the greater portion of the time every day during his sickness, although at times he sat outside the house, was once driven a few blocks, and was in and out of bed many times. In *North v. Insurance Company* (Mo. App.) 231 S. W. 665, the policy provided that the weekly benefits would be payable if the insured by reason of illness was necessarily confined to bed. The evidence in that case showed that the insured suffered from heart trouble and that at times she was unable to lie in bed, her ailment being such that she could not get her breath while in a reclining position. The court in that case observed:

> Under the facts in this case, it would be rank nonsense to hold that because the insured could not lie in bed, owing to the bad condition of her heart, she was not entitled to sick benefits. That provision of the contract heretofore set out does not mean that the insured should be confined to bed all the time, but means that the insured must be "bedridden in a substantial sense."

And again, in *Home Protective Association v. Williams*, 151 Ky. 146, 151 S. W. 361, Ann. Cas. 1915A, 260, the Kentucky court approved the following instruction:

> The insured was necessarily and continuously confined to bed if his sickness was such as would reasonably confine a person continuously to bed or substantially so confine him, though he may have been up at times to get fresh air or for other purposes.

In the present case, said the Supreme Court, the trial court took the view that, although the insured was seriously afflicted with asthma, his testimony that he was not regularly in bed would defeat, as a matter of law, his claim for sick benefits under the policy. In the opinion of the Supreme Court, however, it was for the jury to say, under all of the evidence in the case, whether the plaintiff was bedridden in a substantial sense and the trial court committed error in not submitting that question to the jury under proper instructions. The judgment of the trial court was therefore reversed and the case remanded for a new trial.—*Peace v. Southern Life & Trust Co. (S. C.), 171 S. E. 475.*

Society Proceedings

COMING MEETINGS

American Ophthalmological Society, Lucerne-in-Quebec, Canada, July 9-11. Dr. J. Milton Griscom, 2213 Walnut Street, Philadelphia, Secretary.

Minnesota State Medical Association, Duluth, July 16-18. Dr. E. A. Meyerding, 11 West Summit Avenue, St. Paul, Secretary.

Montana, Medical Association of, Helena, July 11-12. Dr. E. G. Balsam, Box 88, Billings, Secretary.

National Medical Association, Nashville, Tenn., August 13-18. Dr. C. A. Lanon, 431 Green Street, South Brownsville, Pennsylvania, General Secretary.

New Mexico Medical Society, Las Vegas, July 19-21. Dr. L. B. Cohenour, 219 West Central Avenue, Albuquerque, Secretary.

Pacific Coast Oto-Ophthalmological Society, Butte, Mont., July 16-18. Dr. F. C. Cordes, Fitzhugh Building, San Francisco, Secretary.

Wyoming State Medical Society, Casper, July 16-17. Dr. Earl Whedon, 30 North Main Street, Sheridan, Secretary.

Current Medical Literature

AMERICAN

The Association library lends periodicals to Fellows of the Association and to individual subscribers to THE JOURNAL in continental United States and Canada for a period of three days. Periodicals are available from 1925 to date. Requests for issues of earlier date cannot be filled. Requests should be accompanied by stamps to cover postage (6 cents if one and 12 cents if two periodicals are requested). Periodicals published by the American Medical Association are not available for lending but may be supplied on purchase order. Reprints as a rule are the property of authors and can be obtained for permanent possession only from them.

Titles marked with an asterisk (*) are abstracted below.

American Heart Journal, St. Louis

9:421-576 (April) 1934

Syphilitic Disease of the Coronary Arteries. H. G. Bruenn, New York.—p. 421.
*Study of Glucose Therapy in Heart Failure in Advanced Cardiac Disease. Abigail Eliot Smith and D. Luten, St. Louis.—p. 437.
Electrocardiograms That Represent Potential Variations of a Single Electrode. F. N. Wilson, F. D. Johnston, A. G. Macleod and P. S. Barker, Ann Arbor, Mich.—p. 447.
The Significance of Electrocardiograms Characterized by an Abnormally Long QRS Interval and by Broad S Deflections in Lead I. F. N. Wilson, F. D. Johnston, I. G. W. Hill, A. G. Macleod and P. S. Barker, Ann Arbor, Mich.—p. 459.
Electrocardiograms of an Unusual Type in Right Bundle-Branch Block. F. N. Wilson, F. D. Johnston and P. S. Barker, Ann Arbor, Mich.—p. 472.
Primary Sarcoma of the Heart: Report of Case with Electrocardiographic and Pathologic Studies. A. R. Barnes, D. C. Beaver and A. M. Snell, Rochester, Minn.—p. 480.
Rupture of Normal Chordae Tendineae of the Mitral Valve. C. Frothingham and G. M. Hass, Boston.—p. 492.
*Observations on the Duration of the Phases of Diastole in Man. Anne Bohning and J. Plaut, Chicago.—p. 500.
The Precordial Lead in One Hundred and Four Normal Adults. A. M. Master, New York.—p. 511.
The Effect of Condensers in the Electrocardiograph. M. Schwarzschild and M. Kissin, New York.—p. 517.
A Self-Retaining Skin Contact Electrode for Chest Leads in Electrocardiography. I. R. Roth, New York.—p. 526.
An Efficient Apparatus for Simultaneous Electrocardiographic and Arterial Pulse Records. J. E. Wood Jr. and R. J. Gentile, University, Va.—p. 530.

Dextrose Therapy in Cardiac Disease.—Smith and Luten report sixteen cases of heart failure in advanced heart disease in which an opportunity was afforded for the comparison of the effects of dextrose and digitalis. In nine cases, dyspnea was relieved to some extent by dextrose. The effect, however, was of short duration (from three to twelve hours) as compared with the more lasting effect of digitalis. Dextrose failed to restore compensation in any case. Digitalis restored compensation in three cases. The first injection of dextrose seemed to have a more beneficial effect than subsequent ones. According to the results, dextrose therapy appears to be indicated as an emergency measure in cases of acute or urgent heart failure and in cases of advanced chronic heart failure in which digitalis in adequate amounts has not restored compensation.

Duration of the Phases of Diastole.—Bohning and Plaut measured the duration of each of the separate phases in approximately 1,750 cardiac cycles in fifty subjects, fifteen of whom had normal hearts, the remaining thirty-five having some type of cardiac lesion. In auricular fibrillation, total systole was found to be definitely shorter and total diastole definitely longer than in normal subjects. In all the other types of cardiac derangement, total systole was longer and total diastole shorter than in normal subjects. In digitalized cases of auricular fibrillation the isometric relaxation and the phases of rapid inflow tended to be prolonged. In aortic regurgitation, protodiastole tended to be prolonged, isometric relaxation to be shortened and auricular systole to be slightly prolonged in comparison to the duration of these phases in normal hearts.

American Journal of Cancer, New York

20:791-1040 (April) 1934

Bronchiogenic Cancer: Treatment with Roentgen Rays. B. M. Fried, New York.—p. 791.
Cancer of the Stomach in Young Patients. E. L. Bishop, Atlanta, Ga.—p. 807.
*Effect of Radiation from Filtered Radon Implants on Growth of Carcinoma and Sarcoma in Animals. K. Sugiura and S. R. Benedict, New York.—p. 813.
Dibenzanthracene 1: 2: 5: 6 as a Carcinogenic Agent. M. G. Seelig, St. Louis.—p. 827.
Genetic Studies on Transplantation of Tumors: VIII. The Genetic Explanation of "Rhythms of Growth." J. J. Bittner, Bar Harbor, Maine.—p. 834.
The Campaign of Society Against Cancer: Opening Address of the Third International Congress of Radiology, Paris, July 26, 1931. G. Forssell, Stockholm, Sweden.—p. 848.
Sweden's Anticancer Campaign. G. Forssell, Stockholm, Sweden.—p. 866.

Effect of Radiation on Growth of Carcinoma and Sarcoma.—In order to determine the minimal lethal doses for Flexner-Jobling carcinoma and Sugiura sarcoma, Sugiura and Benedict studied the effect of radiation from filtered radon implants on the growth of the carcinoma and sarcoma in rats. In the case of Flexner-Jobling rat carcinoma, tumors 2 cm. or less in diameter showed complete regression in about 50 per cent of the cases with from 2 to 3 skin erythema doses. With more than 3 skin erythema doses, tumor regression occurred in 90 per cent of cases in which the masses were not more than 2 cm. in diameter. Larger tumors, from 2.4 to 3.3 cm. in diameter, were seldom destroyed even by relatively large doses of radiation (about 6 skin erythema doses). For early stages of Sugiura rat sarcomas, measuring from 0.7 to 1.5 cm. in diameter, less than 3 skin erythema doses would not produce regression in as many as 50 per cent of the cases. On the other hand, slightly higher doses, from 3 to 4 skin erythema doses, produced regression in about 80 per cent of all tests. In larger tumors, from 1.5 to 2.3 cm. in diameter, an average of 3.4 skin erythema doses was insufficient for the complete destruction of the sarcoma. With a much larger dose (about 6 skin erythema doses), similar large tumors could sometimes be destroyed completely.

American J. Digestive Diseases and Nutrition, Chicago

1:91-160 (April) 1934

Obstruction of Upper Portion of the Small Intestine: Clinical Study. A. B. Rivers and N. W. Thiessen, Rochester, Minn.—p. 92.
Broadening Conception of Regional Ileitis. B. B. Crohn, New York.—p. 97.
Food Allergy in Its Relation to Gastro-Intestinal Disorders. J. Friedenwald and S. Morrison, Baltimore.—p. 100.
Report of an Instance of Suppurative Cholangiohepatitis with Obstructive Jaundice: Value of Duodenal Tube Drainage of the Biliary Tract in Diagnosis and in the Alteration of Symptoms and Signs. B. B. V. Lyon, D. B. Pfeiffer and J. Eiman, Philadelphia.—p. 104.
Observations on Amebiasis: Report of Seven Unusual Instances of Colon Disease Seen Between Sept. 23, 1933, and Feb. 4, 1934. V. E. Simpson, Louisville, Ky.—p. 109.
Jaundice with Ascites: Clinical Study in Differential Diagnosis. W. F. Cheney, San Francisco.—p. 113.
Relation of Gastrectomy to Anemia on the Presence of the Substances Effective in Pernicious Anemia in Canine Stomach and Liver. A. C. Ivy, O. Richter, A. F. Meyer and H. Greengard, Chicago.—p. 116.
Gastro-Intestinal Studies: IV. Relation of *pu* to the Pepsin and Rennin Content of the Gastric Juice. O. M. Helmer, P. J. Fouts and L. G. Zerfas, Indianapolis.—p. 120.
Lower Fat Diet in Diabetes. J. H. Barach, Pittsburgh.—p. 124.
Estimation of the State of Hydration of the Body by the Amount of Water Available for the Solution of Sodium Thiocyanate. L. A. Crandall Jr. and M. X. Anderson, Chicago.—p. 126.
Dietary Phases of Pernicious Anemia. B. S. Cornell, Fort Wayne, Ind.—p. 131.
Cholecystocolic Fistula with X-Ray Demonstration. M. G. Vorhaus and A. E. T. Rogers, New York.—p. 133.
*Insulin in Treatment of Peptic Ulcer. C. R. Jones, Pittsburgh.—p. 135.
Two Specimens of Gastric and Duodenal Ulcers Anatomically Cured by Surgery. L. Blaglon and L. C. Simard, Montreal.—p. 137.
Diagnostic Criteria of Rectal Cancer. C. Rosser, Dallas, Texas.—p. 141.
Anal Fissure and Its Management. C. L. Martin, Chicago.—p. 144.

Insulin in Treatment of Peptic Ulcer.—Jones administered from 10 to 15, sometimes 20, units of insulin subcutaneously fifteen minutes before eating to twelve patients having recent peptic gastric ulcers, six patients with recurring ulcers and eight patients presenting complicated ulcers in the sense of Troitzky's theory. The action was not immediate, but usually in from four to five days of insulin treatment there was a decrease of the pain, improvement in the subjective condition, and an increase in weight, which was coincident with a decrease of the vagotonus. In seven of the twelve patients of the first group, pain disappeared after five days and the blood from the contents of the gastro-intestinal tract after seven days, in spite of the distinct increase of the gastric secretion. In four persons the symptoms disappeared in from six to ten days and in one patient the feeling of complete well being appeared only after two weeks. The weight of all patients increased from 3 to 8 pounds (1.3 to 3.6 Kg.). In the second group of six patients, insulin treatment (from 20 to 30 units daily), carried

out for two to three weeks, gave good results, so that roentgen examination revealed no signs of the previously existing ulcer. Four of the patients were observed for nine, eleven, thirteen and fifteen months, respectively. No recurrences were observed. In one patient there was a recurrence after five and one-half months; the ulcer symptoms disappeared again after ten days of insulin treatment. The last group of patients experienced undoubted relief under the influence of from fourteen to sixteen days of insulin treatment: the pains, although considerably lessened, continued to recur from time to time, especially in the periods of nondigestion, apparently correlating to movements of the stomach. Nevertheless, the patients stated that their well being was improved greatly. They gained in weight and had good appetites; two of them, after leaving the hospital, could do physical work of which they had been incapable before.

American Journal of Ophthalmology, St. Louis

17: 291-386 (April) 1934

The Optic Angle in Relation to Strabismus. E. L. Armstrong, Duluth, Minn.—p. 291.
The Use of the Superior Oblique as an Internal Rotator in Third Nerve Paralysis. L. C. Peter, Philadelphia.—p. 297.
Concerning Iridodialysis as a Clinical Entity: Its Surgical Treatment: Report of Cases. B. W. Key, New York.—p. 301.
Tables for Accurate Retinal Localization. G. H. Stine, Colorado Springs, Colo.—p. 314.
Improvement in Reading Following the Correction of the Eye Defects of Nonreaders. T. H. Eames, West Somerville, Mass.—p. 324.
Comparative End Results in the Intracapsular and Extracapsular Operations for the Removal of Senile Cataracts. D. K. Pischel, San Francisco.—p. 326.
Ocular Complications in Paget's Disease: Report of Case. J. I. Gouterman, Philadelphia.—p. 334.
Modified Electrodiathermic Technic for Retinal Detachment: Report of Its Use in Six Cases and Presentation of Modified Instruments. E. B. Gresser, New York.—p. 340.

Am. J. Roentgenol. & Rad. Therapy, Springfield, Ill.

31: 433-580 (April) 1934

Ununited Intracapsular Fractures of the Femoral Neck Roentgenographically Considered. A. W. George and R. D. Leonard, Boston.—p. 433.
*Hematogenous (Nonmiliary) Pulmonary Tuberculosis. M. Pinner, Tucson, Ariz.—p. 442.
Roentgen Diagnosis of Mediastinal Tumors and Their Differentiation. G. E. Pfahler, Philadelphia.—p. 458.
*Congenital Cardiac Disease in Infants, with a Discussion of Tracheal Displacement as a Roentgen Sign. E. P. Pendergrass and M. L. Allen, Philadelphia.—p. 470.
Roentgen Examination of the Mastoid Processes. F. M. Law, New York.—p. 482.
Bone and Joint Changes in Hemophilia. L. Solis-Cohen and S. Levine, Philadelphia.—p. 487.
Os Acetabuli. E. Freedman, Cleveland.—p. 492.
Roentgenographic Studies of Parathyroid Deossification. J. J. Moore and A. A. de Lorimier, Washington, D. C.—p. 496.
Histologic Studies of the Liver, Spleen and Bone Marrow in Rabbits Following the Intravenous Injection of Thorium Dioxide. E. A. Pohle and G. Ritchie, Madison, Wis.—p. 512.
*Data Concerning Three Years' Experience with 600 Kilovolt (Peak) Roentgen Therapy. S. G. Mudd, C. K. Emery, Pasadena, Calif.; O. M. Meland and W. E. Costolow, Los Angeles.—p. 520.
Alterations in the Pit of the Blood in Cancer Following Roentgen and Gamma Irradiation. Janetta Wright Schoonover, Ethel Hall Shiels and B. P. Widmann, Philadelphia.—p. 532.
Variations in Dosage Dependent on Wavelength. M. C. Reinhard, Buffalo.—p. 538.
Echinococcus Cyst Attached to Kidney: Case Report. M. J. Geyman and D. M. Clark, Santa Barbara, Calif.—p. 541.

Hematogenous (Nonmiliary) Pulmonary Tuberculosis.—Pinner draws attention to a type of pulmonary tuberculosis that is most likely caused by hematogenous seeding and does not take the course of miliary tuberculosis. The roentgenologic characteristics are fairly evenly and symmetrically scattered shadows of slight density and of blurred outlines, which undergo one of the following changes: disappearance (resorption), increase in density (fibrosis or calcification) or coalescence, terminating in the usual manifestations of bronchogenic phthisis. Clinically, these cases are frequently, but not always, characterized by an astounding paucity of symptoms and sometimes of physical signs as well, in spite of massive anatomic involvement, and by the difficulty of demonstrating tubercle bacilli in the sputum. The anatomic and histologic characteristics include the more or less even seeding throughout both lungs (and frequently in extrapulmonary organs), the frequent absence of larger cavities, the absence of apparently old upper lobe lesions, the frequent evidence of repeated seedings and the type of healing. Histologic studies would indicate that the major part of the pathologic processes occurs in the interstitial tissue.

Congenital Cardiac Disease in Infants.—Pendergrass and Allen observed tracheal displacement in the inspiratory phase in nine cases of congenital heart disease. Necropsy showed complete transposition of the great vessels in two cases, partial transposition of the great vessels in two cases, dextroposition of the aorta in one case, complete transposition of the heart and the great vessels in one case and multiple intrinsic defects in the heart in three cases. In 150 normal infants, tracheal displacement did not occur in the inspiratory phase. Displacement of the trachea due to an enlarged thymus often gives an appearance similar to that seen in these cases. Anatomic and postmortem evidence suggests that transposition of the great vessels may have been responsible for the tracheal displacement in most of the authors' cases. The possibility of some other mechanism causing tracheal displacement in these cases should be borne in mind, since several of their cases did not present transposition of the vessels. The average patient with tracheal displacement has a congenital lesion of sufficient magnitude to be diagnosed clinically. The authors have no conclusive data as yet which would suggest that tracheal deviation is pathognomonic of congenital heart disease in the absence of clinical signs.

Treatment of Cancer with 600 Kilovolt Roentgen Therapy.—During the past three years, Mudd and his associates treated 285 cancer patients with 600 kilovolt roentgen therapy. They describe the technic of moderately heavy protracted irradiation used in the treatment of malignant lesions of the bladder, prostate, rectum, esophagus, larynx and pharynx. They have made comparisons of the cutaneous reaction subsequent to treatment with 200 kilovolts with 0.5 mm. of copper filter and 600 kilovolts with 5 mm. of steel filter, as well as with 1 mm. of lead additional filtration. They discuss time factors involved in the production of erythema as well as roentgen doses that have led to serious roentgen dermatitis. They noted that persons in good general physical condition withstand short wavelength roentgen therapy with little discomfort. The results of gross and microscopic pathologic examinations are briefly discussed. There have been many instances of palliation in patients able to withstand full cycles of high voltage roentgen therapy. In the authors' opinion, heavily filtered radiation at 600 kilovolts or higher seems to offer better possibilities in the treatment of certain types of deep seated cancer than radiation at substantially lower voltage. The results achieved by its use may be favorably compared to the effects produced by a 4 gram radium pack.

Annals of Surgery, Philadelphia

99: 721-880 (May) 1934

Ligation of the Great Vessels of the Neck. G. M. Dorrance, Philadelphia.—p. 721.
Asymmetrical Breast Deformities. J. W. Maliniak, New York.—p. 743.
Tuberculosis of the Breast. W. E. Lee and W. R. Floyd, Philadelphia.—p. 753.
Value of Nephrolysis, Ureterolysis and Nephropexy in Selected Cases. A. Randell and E. Campbell, Philadelphia.—p. 760.
*Primary Tumors of the Ureter, with Especial Reference to the Malignant Tumors: Report of Three Cases. J. A. Lazarus, New York.—p. 769.
Supernumerary Kidney. W. J. Carson, Milwaukee.—p. 796.
Treatment of Varicose Veins: Study Based on a Series of More Than Thirty-Five Thousand Injections of Various Sclerosing Solutions Given in Three Thousand One Hundred and Sixty-Four Cases of Extensive and Recurrent Varicose Veins Treated by Preliminary Ambulatory Ligation and Subsequent Injections. W. M. Cooper, New York.—p. 799.

Primary Tumors of the Ureter.—A search of the literature revealed only sixty-eight cases of primary malignant tumors of the ureter, including the three that Lazarus reports. The nonpapillary type of tumor comprised 42 per cent of the series. Malignant tumors of the ureter are most frequently found in the lower part of the ureter and are associated with hydronephrosis in 67 per cent and hydro-ureter in 51 per cent of the cases. The disease occurs during the sixth and seventh decades in 50 per cent of the cases. The growth is invasive and metastasizes readily to the regional lymph nodes (48 per cent), lungs (18 per cent) and liver (22 per cent). Although pain, hematuria and enlargement of the kidney constitute the characteristic triad of symptoms, it was found that hematuria alone was the principal symptom in 75 per cent of the cases. The diagnosis can be made only by carefully executed cystoscopic roentgenographic procedures. The presence of a tumor at

the ureteral orifice is a highly suggestive observation, yet it was reported in only 29 per cent. A definitely established filling defect in the ureterogram is the only pathognomonic sign of a tumor of the ureter and was reported in only 8.7 per cent. The infrequency of this finding is probably due to the failure to suspect the lesion and consequently to the failure of carrying out carefully made ureterograms. The encountering of an obstruction in the ureter, as occurred in 38.2 per cent, provocation of bleeding by manipulation of the catheter, and failure to demonstrate a shadow suggestive of calculus at the site of obstruction on the roentgenogram, should suggest the possibility of this condition. The author is of the opinion that repeated attempts at ureterograms in such cases would eventually demonstrate a filling defect in a greater proportion, thus confirming the diagnosis of ureteral neoplasm. Owing to the difficulty encountered at times of palpating the tumor within the ureter at the time of the operation, it seems better in those cases in which operation is undertaken for the purpose of exploring the upper urologic tract for hematuria, especially when a tumor of the ureter is not suspected, to do a complete ureterectomy with the nephrectomy in the event that the kidney fails to account fully for the bleeding. The procedure of choice in the treatment of this disease is complete nephro-ureterectomy by the extraperitoneal approach, the resection including a portion of the bladder adjacent to the ureteral meatus. The operation is best done under spinal anesthesia and is concluded by placing an indwelling catheter into the bladder through the urethra. It is retained for a week or ten days.

Archives of Neurology and Psychiatry, Chicago

31: 893-1128 (May) 1934

Head Injury: Neurologic and Psychiatric Aspects. I. Strauss and N. Savitsky, New York.—p. 893.
Brain Trauma: Histopathology During the Early Stages. N. W. Winkelman, Philadelphia, and J. L. Eckel, Buffalo.—p. 956.
Bulbocapnine: Effect on Animals with Lesions of the Central Nervous System. W. R. Ingram and S. W. Ranson, Chicago.—p. 987.
*Basophilic Syndrome of the Pituitary: Pituitary Basophilism (Cushing). I. H. Pardee, New York.—p. 1007.
The Third Ventricle: Conformation of the Floor and Its Relation to the Meninges. C. P. Richter and J. A. Benjamin Jr., Baltimore.—p. 1026.
Effect of Direct Stimulation of Brain and Spinal Cord on Reflex Time. J. M. Dorsey and L. E. Travis, Iowa City.—p. 1038.
Swelling of the Microglia: Reaction to Intoxication. E. Marcovitz and B. J. Alpers, Philadelphia.—p. 1045.
*Convulsions of Undetermined Etiology: Studies of the Blood Sugar. J. M. Nielsen, Los Angeles.—p. 1055.
Thought in Schizophrenia. L. S. Vigotsky, Moscow, U. S. S. R.; translated by J. Kasanin, Howard, R. I.—p. 1063.
The Domain of Neuropsychiatry and the Training of the Neuropsychiatrist. J. R. Hunt, New York.—p. 1078.

Pituitary Basophilism.—Pardee outlines five syndromes of pituitary basophilism: the Cushing syndrome, a mixed syndrome of intrasellar pituitary disease, a syndrome in which the disturbances appear to point to involvement of the suprarenal cortex, a prepubertal or pubertal basophilic syndrome and the postmenopausal basophilic syndrome. He endeavors to confirm the characteristic syndrome of pituitary basophilism described by Cushing and to demonstrate that not all basophilic syndromes are necessarily progressive and fatal; likewise, that pituitary adenomas presenting many features of this syndrome exist, and are either purely pituitary basophilism or combined with acidophilism and disease of the suprarenals; also that "transitory or mild degrees of pituitary basophilism" (Cushing) do exist, not only in adolescents but in premenopausal and postmenopausal states. The author believes that the close relationship of the hypophysis to the gonads is, no doubt, an important factor in producing a predominant activity of the basophil cells, because this syndrome occurs more frequently in women. It has been affirmed that the basophil cells produce the gonad-stimulating hormone of the hypophysis (anterior lobe). This is an assumption that is not yet well founded and will probably be altered on both experimental and practical grounds. Two of the author's cases showed an absence of anterior pituitary-like principle in the urine, as did one of Cushing's cases. These patients present every evidence of underactivity of the sex function rather than a stimulatory effect. One will have to fall back on a theoretical explanation which presumes that a proper balance between the endocrine organs has been disturbed, resulting in a pluriglandular disorder, the principal feature of which is the basophilic syndrome.

Convulsions of Undetermined Etiology.—Nielsen presents fifty-eight consecutive dextrose tolerance curves in cases of idiopathic epilepsy and shows that periodic or constant low blood sugar occurs in about 90 per cent of epileptic persons during a dextrose tolerance test. A series of 182 dextrose tolerance curves in various types of patients is analyzed to determine whether those with epilepsy, as a class, show lower readings. The syndrome of idiopathic epilepsy seems to be for the greater part confined to persons with a tendency to hypoglycemia, but except in rare instances hypoglycemia itself is not sufficient to cause an epileptic attack. Other necessary factors probably are hydration, alkalosis, depletion of glycogen, hyposuprarenalism or imbalance of the vegetative nervous system. The author agrees with Munch-Petersen and Schou that the hypoglycemia rather serves to indicate the type of person with which one is dealing. However, hyperinsulinism cannot be detected and separated from idiopathic epilepsy by the determination of blood sugar during fasting. It cannot be differentiated even by a dextrose tolerance test. Clinical data of other sorts are necessary.

Arch. of Physical Therapy, X-Ray, Radium, Chicago

15: 193-256 (April) 1934

Diathermy in Ambulatory Gynecologic Patients. L. E. Frankenthal Jr., A. J. Kobak and L. Krohn, Chicago.—p. 197.
Endocervicitis and Pelvic Infections. J. E. Rueth, Milwaukee.—p. 200.
Pathology and Treatment of Endocervicitis. W. E. Ground, Superior, Wis.—p. 202.
Chronic Focal Infection. J. W. Wiltsie, Binghamton, N. Y.—p. 210.
The Preradium Treatment of Uterine Cervical Malignancy. H. Swanberg, Quincy, Ill.—p. 214.
Fundamentals of Radium Therapy in Cancer of the Rectum. C. J. Drueck, Chicago.—p. 220.
Physical Therapy in Nasal Accessory Sinus Disease. F. L. Follweiler, Philadelphia.—p. 222.
Chronic Arthritis: Recent Problems of Its Structural Changes, with Especial Reference to Physical Therapy. R. Kovacs and J. Kovacs, New York.—p. 227.
A Plan for a Registry of Physical Therapy Technicians. J. S. Coulter, Chicago.—p. 234.
Emanotherapy by the Vaugeois Process. L. Godin, Nogent-sur-Marne, France.—p. 237.

Colorado Medicine, Denver

31: 155-184 (May) 1934

Brain Abscess. H. Darrow, Denver.—p. 160.
Brain Tumors. J. R. Jaeger, Denver.—p. 165.
Narcolepsy. L. E. Daniels, Denver.—p. 168.

Delaware State Medical Journal, Wilmington

6: 45-66 (March) 1934

Choice of Physician Under Workmen's Compensation Laws. L. A. Shoudy, Bethlehem, Pa.—p. 45.
Rocky Mountain Spotted Fever. R. E. Dyer, Washington, D. C.—p. 52.

6: 67-88 (April) 1934

Treatment of Myoma Uteri. F. E. Keene, Philadelphia.—p. 67.
Radium as a Therapeutic Agent. I. Burns, Wilmington.—p. 72.
Infant Feeding and Nutrition. R. M. Tyson, Philadelphia.—p. 75.
Etiology and Treatment of Acne Vulgaris. A. D. King, Wilmington.—p. 77.
Malignant Melanoma. Marion L. H. Freeman, Wilmington.—p. 80.

Georgia Medical Association Journal, Atlanta

23: 123-162 (April) 1934

*Carcinoma of the Thyroid: An Early and Unusual Case. F. C. Lee, Augusta.—p. 123.
Cancer of the Large Bowel. R. N. Johnson, Rome.—p. 127.
Overlooked Fractures. L. Harbin, Rome.—p. 128.
Amebiasis: Case Reports. H. M. Tolleson, Habira.—p. 130.
New Treatment for Chorea: Case Report. J. A. Redfearn, Albany.—p. 135.
Benign Tumor of the Laryngopharynx: Report of Case. B. M. Cline, Atlanta.—p. 136.

Carcinoma of the Thyroid.—Lee reports a case of carcinoma of the thyroid in a child, aged 8 years, in whom the diagnosis of Riedel's thyroiditis was made on the basis of a small, firm, uniformly enlarged gland. A severe attack of gonococcic vaginitis occurred while the child was in the hospital and apparently after the enlargement of the thyroid had been noted. At operation the ribbon muscles of the neck were found adherent to the gland and the disease was considered to be an inflammatory process. Not enough weight was given to the presence of two small masses in the left side of the neck, which were indicative of a malignant process and are not usual in cases of Riedel's thyroiditis. Another curious condition was

the sudden increase in size in the two small masses in the neck following the first operation. In view of the diagnosis of carcinoma it was natural to suspect that this enlargement was a rapidly growing metastasis; but since the original tumor in the thyroid had grown slowly, a growth of metastasis so sudden and rapid was not looked for, even though operative intervention promotes metastatic development. The masses in the neck became smaller following tonsillectomy.

Indiana State Medical Assn. Journal, Indianapolis

27: 193-238 (May 1) 1934

Cancer of the Uterus: Etiology, Diagnosis and Treatment. A. H. Curtis, Chicago.—p. 193.
Pellagra in Indiana and Its Treatment. P. J. Fouts and L. G. Zerfas, Indianapolis.—p. 196.
Peroral Endoscopy: An Indispensable Aid in the Early Diagnosis of Malignant Disease of the Larynx. E. L. Bulson, Fort Wayne.—p. 200.
Acute Upper Respiratory Tract Infections. H. C. Ballenger, Chicago.—p. 207.
*Insulin Results in Mental Patients. W. L. Sharp and M. A. Bahr, Indianapolis.—p. 210.
Spinal Anesthesia. M. C. Sexton, Rushville.—p. 211.
Nirvanol Treatment of Chorea. H. F. Call, Indianapolis.—p. 216.

Insulin Therapy in Mental Patients.—Sharp and Bahr studied the effect of insulin therapy in three cases of dementia praecox (two of the catatonic and one of the simple type), one case of involutional psychosis and one of manic-depressive psychosis in the depressed phase. Three of the patients were eating but little and two were on actual hunger strikes. All of them were thin and emaciated. The insulin was given three times daily in 10 unit doses, thirty minutes before meals, and no change was made in the routine of the patients. Definite increases in weight and strength were noted after four weeks of insulin therapy, but some of this was lost in the two months following the cessation of the treatment. The authors believe that this was due to the mental states; viz, negativism in the three praecox cases and the depressed, melancholic state in the cases of involutional psychosis and manic-depressive psychosis. Gastro-intestinal roentgenograms tended to show some improvement in the emptying time of the stomach and colon. However, the results were not striking. The extremely low stomach acidity in all the cases was striking and seemed to be parallel with the negativism. The mental state improved in only the manic-depressive patient.

Journal of Pediatrics, St. Louis

4: 431-572 (April) 1934

Relationship of Home and Hospital in the Management of Sick Children. A. B. Schwartz, Milwaukee.—p. 431.
Erythrodermia Desquamativa. L. W. Hill, Boston.—p. 436.
*Rickets in Rats by Iron Feeding. J. F. Brock and L. K. Diamond, Boston.—p. 442.
Comparison of Nutritional and Growth Values of Certain Infant Foods. C. T. Williams and A. O. Kastler, New Orleans.—p. 454.
Motion of Growth: XVI. Clinical Aspects of Human Growth and Metabolism, with Especial Reference to Infancy and Preschool Life. N. C. Wetzel, Cleveland.—p. 465.
Simplifying the Problem of Infantile Eczema: Analysis of One Hundred and Fifty-Seven Cases. L. Bivings, Atlanta, Ga.—p. 494.
*Acrodynia (Erythredema, Polyneuritis, Vegetative Neurosis, Pink or Swift Disease): Histopathologic Study of the Nervous System. I. J. Wolf, Paterson, N. J., and C. Davison, New York.—p. 498.
Rice Polishings as a Source of Vitamin B Complex in Infant Feeding. M. F. Gaynor and R. H. Dennett, New York.—p. 507.
Acute Meningitis Due to Bacillus Fecalis-Alcaligenes. R. J. Mason, Detroit.—p. 514.
Neurocytoma of the Adrenal Gland with Metastasis. H. S. Meyer, Houston, Texas.—p. 517.

Rickets in Rats by Iron Feeding.—Brock and Diamond produced rickets in rats by the addition of ferric chloride to a normal, nonrachitogenic diet. The rickets so produced, as judged by roentgenographic, microscopic and chemical studies, was qualitatively similar to but more severe than that produced by Steenbock's rachitogenic diet 2965. The addition of phosphorus to this ferric chloride diet prevented the occurrence of rickets. The chlorine radical of the ferric chloride has been eliminated as the rachitogenic factor by negative results from the addition of ammonium chloride to the nonrachitogenic diet. Similar rachitic changes have been produced by the addition of other iron compounds to the nonrachitogenic diet.

Acrodynia.—Wolf and Davison report a case of acrodynia in a child, aged 2 years, who presented the typical trophoneural changes. Histopathologic study of the nervous system revealed a marked swelling of the ganglion cells of the third cortical lamina, the large ganglion cells of the neostriatum and the Purkinje cells of the cerebellum, and severe pathologic changes in the nerve cells of the locus ceruleus. In the cervical region of the spinal cord there was some disintegration of the fibers in the ventrolateral tracts and loss of Nissl substance and vacuolization in the motor cells of the nucleus ventralis of the eleventh nerve, and in the ventrolateral and ventromesial anterior horn cells. The peripheral nerve changes were similar to those seen in peripheral neuritis.

Journal of Thoracic Surgery, St. Louis

3: 333-440 (April) 1934

Reinflation of Atelectatic Lung: Experimental Study. G. E. Lindskog and H. H. Bradshaw, Boston.—p. 333.
*Effect of Exercise on Acid-Base Balance and Oxygen of Blood Following Atelectasis and Pneumonectomy. L. Drastich, W. E. Adams, A. B. Hastings and C. L. Compere, Chicago.—p. 341.
Superior Vena Caval Obstruction with a Consideration of the Possible Relief of Symptoms by Mediastinal Decompression. W. Ehrlich, H. C. Ballon and E. A. Graham, St. Louis.—p. 352.
Ganglioneuroma of the Chest in Children: Report of Case with Review of Literature. J. V. Bohrer and Edith M. Lincoln, New York.—p. 365.
Electrocardiogram in Stab Wounds of the Heart: Case Report. G. L. Davenport and P. Markle, Chicago.—p. 374.
Tuberculosis of the Thoracic Wall: Survey of Thirty-Two Cases. D. Carr and J. Alexander, Ann Arbor, Mich.—p. 380.
*Factors Influencing the Safety and Efficiency of Thoracoplasty. J. W. Gale, Madison, Wis.—p. 393.
Some Aspects of the Gross Surgical Pathology of Chronic Pulmonary Tuberculosis. M. Berck, New York.—p. 404.
Empyema in Pulmonary Tuberculosis. E. P. Smart, Olive View, Calif.—p. 413.
*Treatment of Tuberculosis Empyema. J. Rosenblatt, Liberty, N. Y.—p. 422.

Effect of Exercise Following Atelectasis and Pneumonectomy.—Drastich and his associates draw the following conclusions from their experiments on dogs: 1. Reduction in active pulmonary tissue by 50 per cent does not embarrass the organism when engaged in moderate exercise, such as running on a level. 2. More strenuous exercise such as swimming results in more fixed acid production than normal. This probably is to be interpreted as indicating that the tissues are receiving a less than normal supply of oxygen and incomplete oxidation results. A decreased percentage saturation of the blood with oxygen in some instances would tend to favor such an explanation, although these results are too incomplete to provide conclusive proof. 3. The elimination of carbon dioxide appears to proceed with normal efficiency unless as much as 75 per cent of the active pulmonary tissue is removed. Even then, severe exercise seems to be well tolerated. 4. When the active pulmonary tissue was reduced by equal amounts, fixed acid increase was more marked in animals with partial collapse than in those with partial pneumonectomy, suggesting that a significant fraction of the blood flows through the atelectatic tissue.

Thoracoplasty.—The clinical study of Gale indicates that the prone position possesses definite advantages in the performance of extrapleural paravertebral thoracoplasty. In his experience the most desirable type of anesthetic agent during the operation is the nitrous oxide-ethylene sequence. Pericostal sutures employed during the second and third stages of a thoracoplasty are effective by reducing the transverse diameter of the hemithorax as a unit and afford a method of preventing paradoxical breathing in patients with a thin pleura. The author recommends the use of intrapharyngeal oxygen as a routine measure following thoracoplasty. It guards against anoxemia which if not treated will draw heavily on the patient's reserve. The use of blood transfusion before and between operative stages furnishes an effective therapeutic measure. Wound infection should be treated by early adequate drainage; otherwise the purpose of the operation may be defeated.

Treatment of Tuberculous Empyema.—Rosenblatt presents the end results in a series of twenty-one cases of toxic tuberculous empyema treated conservatively and followed up for from three and one-half to eleven years. The principles underlying the treatment depend on the number of complicating factors present. The therapeutic measures commonly employed in tuberculous empyema may be classified as conservative and radical. The conservative measures frequently used are: aspiration, aspiration and air replacement, aspiration and irrigation

with antiseptic solutions, such as sodium chloride, gentian violet, acriflavine and potassium permanganate, and oleothorax with a 5 to 10 per cent solution of aromatized oil. The treatment in the author's cases consisted of aspiration of as much of the pus as possible, replacing it with air, and the injection of from 2 to 3 cc. of a saturated alcoholic solution of methylene blue just before the needle was withdrawn. This treatment was repeated at varying intervals, depending on the rapidity with which the fluid reaccumulated. The amount of air introduced was dependent on the amount of fluid aspirated and the intrapleural pressure. In large effusions with a free pleural cavity, a slightly negative pressure was left at the end of the treatment. If the pleural cavity became limited and further collapse of the lung was desired, enough air was introduced to produce a slightly positive pressure. This procedure was repeated periodically, as long as there was any fluid that could be aspirated, though the intervals between treatments could be gradually increased as the reaccumulation of the pus became slower. The successful cases remained under treatment for from eight months to four years. The average length of treatment was approximately two years. Eleven patients were cured and ten died. Of the cured patients, ten are entirely free of symptoms and are able to work, and one is under treatment with pneumothorax for a newly developed lesion on the opposite side, but the empyema has entirely cleared up and the lung reexpanded. Among the patients who recovered, two developed empyema as a result of perforation of the lung, and of these two, one had also a fair-sized bronchopleural fistula. One patient with a small draining sinus in the chest wall and a small intermittently patent bronchopleural fistula also recovered. In this case the sinus persisted for about two years and has been healed for the last three years. Of the patients who died, four showed considerable improvement temporarily, and the ultimate fatal outcome was due to the progressive pulmonary disease. Six failed to show improvement. The empyema was probably an important factor in the unfavorable outcome of three cases. In two of these, large bronchopleural fistulas were present.

Kansas Medical Society Journal, Topeka

35: 121-160 (April) 1934

Treatment of Pernicious Anemia. P. Starr, Chicago.—p. 121.
Common Summer Eruptions. C. O. West, Kansas City.—p. 124.
X-Ray Dosage and Depth Factors. H. H. Woods, Topeka.—p. 128.
Uterine Infections. E. O. Squire, Coffeyville.—p. 130.

Kentucky Medical Journal, Bowling Green

32: 183-226 (April) 1934

Clinical Case Presented at Staff Meeting of Children's Free Hospital. J. T. Bates, Louisville.—p. 185.
Krukenberg Tumor. H. M. Werter, Louisville.—p. 186.
The Acute Abdomen: Visceral Perforation. C. A. Vance, Lexington. —p. 188.
Acute Mechanical Intestinal Obstruction. G. Y. Graves, Bowling Green. —p. 193.
Acute Appendicitis, Some Observations on One Hundred Operative Cases. G. Aud, Louisville.—p. 195.
Postvaccinal Encephalitis. N. S. Andrews, Louisville.—p. 203.
Physiotherapy. R. H. Davis, Louisville.—p. 205.
Bronchial Asthma and Other Allergic Conditions. A. E. Cohen, Louisville.—p. 209.
Recent Progress in Surgery. E. W. Northcutt, Covington.—p. 215.
The Doctor on the Witness Stand. C. Morris, Louisville.—p. 218.

Laryngoscope, St. Louis

44: 261-348 (April) 1934

Otologic Management of Progressive Deafness. G. M. Coates and W. Gordon, Philadelphia.—p. 261.
Infection of the Petrous Apex. E. R. Roberts, Bridgeport, Conn.—p. 274.
Suppuration of the Petrous Pyramid. S. Bricker, Philadelphia.—p. 284.
Familial Deafness: Possible Example. C. C. Bunch, St. Louis.—p. 291.
Spontaneous Decompression of a Tumor of the Pituitary Area of the Brain: Case Report. W. H. Turnley, Stamford, Conn.—p. 299.
Dentigerous Cyst of the Maxillary Antrum with Unusual Variations. J. McGuire and H. L. Harris, Bluefield, W. Va.—p. 306.
Tonsillectomy on a Bleeder; Transfusion; Acute Gangrenous Appendicitis; Peritonitis; Recovery. H. Hays, New York.—p. 315.
Inoperable Case of Cervical Lymphadenitis, Cured by Electrosurgical Tonsillectomy. L. J. Silvers, New York.—p. 318.
Involvement of Larynx in Agranulocytic Angina: Report of Three Cases. M. T. Smith, New Rochelle, N. Y.—p. 320.
Peanuts, Needles and Saw Horses. F. T. Hill, Waterville, Maine.—p. 327.
Syphilitic Tracheo-Esophageal Fistula: Report of Case. R. M. Lukens and J. Ono, Philadelphia.—p. 334.

Military Surgeon, Washington, D. C.

74: 169-224 (April) 1934

Evolution of the Public Health Service. H. S. Cumming.—p. 169.
Radiant Energy: IV. Cancer. F. M. Hartsock.—p. 177.
Eight Years with the Kahn Test. F. M. Rohow.—p. 180.
Intrinsic Cancer of the Larynx: Report of Three Cases Apparently Cured by Operation. R. Reynolds.—p. 182.
Granulopenia. J. R. Darnall.—p. 187.

Missouri State Medical Assn. Journal, St. Louis

31: 133-176 (April) 1934

Prevention of Cancer of Cervix Uteri. G. Gellhorn and Kate C. Spain, St. Louis.—p. 133.
Proper and Adequate Treatment of Syphilis. R. S. Weiss and A. H. Conrad, St. Louis.—p. 135.
Cephalotetanus with Facial Paralysis: Case Report and Résumé of Methods of Treatment. C. M. Gray, Kansas City.—p. 139.
Endometrial Hyperplasia. F. R. Farthing, Springfield.—p. 144.
Treatment of Glaucoma by Systemic Measures: Report of Cases. J. F. Hardesty, St. Louis.—p. 148.
Treatment of Neurosyphilis. L. D. Cady and L. F. Aitken, St. Louis. —p. 150.
Spinal Puncture and Spinal Fluid. G. Ives, St. Louis.—p. 152.

New England Journal of Medicine, Boston

210: 883-934 (April 26) 1934

Intussusception: Relation of Cerebral Cortex to Intestinal Motility in the Monkey. J. W. Watts, Philadelphia, and J. F. Fulton, New Haven, Conn.—p. 883.
Observations on Chemical and Physical Relation Between Blood Serum and Body Fluids: II. Chemical Relation Between Serum and Edema Fluids as Compared with That Between Serum and Cerebrospinal Fluid. D. R. Gilligan, Marie C. Volk and H. L. Blumgart, Boston. —p. 896.
Some Departures from the Beaten Path in Kidney Surgery: Experimental Studies. N. F. Ockerblad, Kansas City, Mo.—p. 906.
End Results in Exophthalmic Goiter: Patients Treated in Preiodine Days. Helen Sinclair Pittman, Boston.—p. 912.
Flatfoot: Anatomic Reconstruction. F. J. Cotton and G. M. Morrison, Boston.—p. 914.

New Jersey Medical Society Journal, Trenton

31: 125-186 (March) 1934

Prevalent Misconceptions of Allergy. J. C. Weisman, Elizabeth. —p. 130.
Studies of the Small Intestine. K. Kornblum, Philadelphia.—p. 134.
Chronic Nontuberculous Renal Infections. A. Randall, Philadelphia. —p. 139.
Endoscopic Revision of Vesical Neck Obstructions: Its Place in the Surgery of the Prostate. J. F. McCarthy, New York.—p. 143.
Pathogeny of the Sequelae of Cholecystectomy. J. V. Donnet, New York.—p. 147.
Congenital Hypertrophic Pyloric Stenosis in Infancy: Report of Thirty Cases Operated on at the Cooper Hospital, Camden, N. J. E. G. Hummel, Camden.—p. 152.
Etiology of Dysalia. I. J. Wolf, Paterson.—p. 156.
*Unique Operation for Appendicitis. L. E. Myatt, Bridgeton.—p. 160.
Urographic Findings in Toxemias of Pregnancy. R. B. Walker, New Brunswick.—p. 161.
Renal Embryomas in Infants and Children. M. F. Campbell, Montclair. —p. 166.
Diagnosis and Treatment of Cancer of Gallbladder. B. B. Ranson Jr., Maplewood.—p. 167.

Unique Operation for Appendicitis.—Preoperatively, in appendectomies in adults, Myatt uses one-fourth grain (0.016 Gm.) of morphine sulphate and $\frac{1}{150}$ grain ((0.0004 Gm. of atropine sulphate. For anesthesia he uses straight nitrous oxide-oxygen gas and feels that this is a marked advance over ether or spinal anesthesia. His incision measures from 2 to 5 cm. in length and runs almost transversely across the abdomen in the natural skin fold, so that when it is healed there is no pulling apart of fibers. The fascia of the external oblique muscle is nicked with a scalpel, the handle of the scalpel is inserted and the fascia is separated with no cutting across the fibers. A small retractor is inserted under the mesial edge of the fascia and a slight nick is made in the internal oblique muscle. The handle of the scalpel is again inserted and the internal oblique and transversalis muscles are separated, thus exposing the peritoneum. The peritoneum is freed and loosened by sweeping the finger around. A narrow rather long retractor of the Deaver type is inserted after the peritoneum is opened and retracted mesially. This draws the small intestine toward the midline and the blue cecum is often visible. This is brought up with the finger or a clamp until the appendix comes into view. The cecum is then replaced in the abdomen, the mesappendix is clamped and tied serially, and a linen purse string suture is placed about the appendix with a small cutting-edge straight needle. The appendix is girdled, crushed, clamped,

ligated, cut and treated with phenol alcohol. It is then grasped with mosquito forceps and, after the ligature is cut about the base of the appendix, the stump is inverted and closed with the linen purse string suture. In closing the peritoneum a continuous suture, one or two interrupted sutures for the muscles, fascia and subcutaneous tissues and Michel clips for the skin are used. The tiny incision is usually employed in young adults with no evidence of other pathologic manifestation and in women the uterus, right tube and ovary can be palpated.

Philippine Islands Med. Association Journal, Manila

14: 121-164 (April) 1934

Simplified Technic of Podalic Version. H. Acosta-Sison, Manila.—p. 121.
Primary Malignant Pleurisy: Case Report. W. Vitug and J. Hizon, Manila.—p. 128.
Some Remarks on Trachoma Among Filipinos. A. S. Fernando, Manila.—p. 137.
Advantages of Properly Modified Powdered Milk in Infant Feeding. V. H. Jazmines, Manila.—p. 142.

Philippine Journal of Science, Manila

53: 107-210 (Feb.) 1934

Mosquito Net for Use in the Philippine Islands: Experimental Studies and Canvass of Materials. P. F. Russell and A. M. Nono, Manila.—p. 107.
Observations on the Bones of Native Horses Affected with Osteomalacia. M. D. Sumulong, Manila.—p. 141.
Fatal Case of Nondysenteric Amebiasis. L. Leiva, Manila.—p. 159.
Poisonous Insect Bite Involving Triatoma Rubrofasciata: Three Cases. C. M. Africa, Manila.—p. 169.
Experimental Inquiry into the Transmission of Rat-Bite Fever Among Rats. Part II: Successful Transmission of Rat-Bite Fever by Feeding Infected Organs to White Rats. S. Arima, Manila.—p. 179.
Physiology of Reproduction in Swine. I: Semen of Boars Under Different Intensivenesses of Mating. A. Rodolfo, Poltava, the Ukraine, U. S. S. R.—p. 183.
A New Philippine Phalloid (Anthurus Brownii). J. M. Mendoza, Manila.—p. 207.

Rhode Island Medical Journal, Providence

17: 53-70 (April) 1934

Diseases of the Eyes a General Practitioner Should Know. V. L. Raia, Providence.—p. 53.
Oral Manifestations of Systemic Disease. A. M. Burgess, Providence.—p. 55.
The Mechanics of Peptic Ulcer Pain: Experimental and Clinical Study. R. S. Bray, Providence.—p. 61.

Surgery, Gynecology and Obstetrics, Chicago

58: 807-934 (May) 1934

Tumor of a Subcutaneous Glomus; Tumeur Glomique; Tumeur du Glomus Neuromyo-Artériel; Subcutaneous Painful Tubercle; Angiomyoneuroma; Subcutaneous Glomal Tumor. M. L. Mason and A. Weil, Chicago.—p. 807.
Experimental Studies of Reparative Costal Chondrogenesis and of Transplanted Bone. J. D. Bisgard, Omaha.—p. 817.
Elimination of Morphine and Quinine in Human Milk. W. G. Terwilliger and R. A. Hatcher, New York.—p. 823.
*Strictures of the Rectum Due to Lymphogranuloma Inguinale. D. Bloom, New York.—p. 827.
Curability of Carcinoma of the Larynx. G. B. New and J. M. Waugh, Rochester, Minn.—p. 841.
Supravaginal Hysterectomy: Statistical Survey of Nineteen Hundred Cases, with Especial Reference to the Later Development of Carcinoma in the Retained Cervix. R. L. Pearse, Boston.—p. 845.
Spinal Anesthesia: Experimental Study. K. W. Thompson, Boston.—p. 852.
Carcinoma of the Bladder. B. S. Barringer, New York.—p. 867.
Combined Intra-Abdominal and Intravaginal Radium Treatment in Cancer of the Cervix. G. Gellhorn, St. Louis.—p. 879.
Plea for Prophylactic Intervention in the Second Stage of Labor. J. R. Goodall, Montreal.—p. 882.
Pyogenic Sepsis: Survey of One Hundred and Fifty Cases. H. Neuhof, A. H. Aufses, New York, and S. Hirshfeld, Los Angeles.—p. 886.
*Technic for Complete Laceration of the Perineum. J. E. Johnson, Memphis, Tenn.—p. 897.
Major Fractures of the Tibia and Fibula: Apparatus and Method of Treatment. R. A. Griswold, Louisville, Ky.—p. 900.
Iliac Carcinoid: Case Report with Obstruction, Resection and Recovery. F. Christopher, Winnetka, Ill.—p. 903.
Fenestras and Pouches in the Broad Ligament as an Actual and Potential Cause of Strangulated Intra-Abdominal Hernia: Report of Two Cases Without Strangulation, with Review of Literature. A. B. Hunt, Chicago.—p. 906.
Carcinoma of the Buccal Mucosa: Analysis of Cases Observed at the Massachusetts General Hospital in the Three Year Period 1924-1926. G. W. Taylor, Boston.—p. 914.

Strictures of Rectum Due to Lymphogranuloma Inguinale.—Bloom points out that a certain group of rectal strictures of obscure etiology is due to a previous infection with the virus of lymphogranuloma inguinale and that lymphogranuloma inguinale resembles in many respects the conditions described in the literature as "benign" or "inflammatory" strictures of the rectum. The uncertainty about the etiology of these strictures equaled until lately the uncertainty about the etiology of the strictures associated with the syndrome of esthiomene and anorectal syphiloma. The patients usually give a history of anal fistulas, mucopurulent and bloody discharge from the rectum, painful defecation and finally obstinate constipation. In the beginning there is only discharge from the rectum; later, pain and symptoms of stenosis appear which are extremely obstinate to treatment. The patients are frequently admitted to the hospital with the diagnosis of cancer of the rectum. After the pathologic examination eliminates malignant changes, the diagnosis of syphilitic stricture frequently is made even in the absence of a history of syphilis. Because of the obstinacy and resistance to treatment, serious operations are carried out. It may be seen how closely the benign rectal strictures resemble the foregoing strictures in association with genito-anorectal elephantiasis, and one may readily conclude that these strictures are identical. In the last few years it has been proved that lymphogranuloma inguinale is the etiologic factor in the production of these benign or inflammatory strictures as well as the syndrome of genito-anorectal elephantiasis. It was proved by the frequent history of the characteristic lymphogranuloma inguinale adenitis and particularly by the positive Frei test.

Complete Laceration of the Perineum.—Johnson discusses the nature of the construction of the external sphincter and describes a method for its reconstruction in complete laceration. He states that the dimple on the perianal skin represents not only the "scar tissue envelopment" at the end of the muscle but also the torn fascial and tendinous insertion of the sphincter muscle belly. The first step, necessarily, is the use of the tissue in the dimple, in the divulsion of the sphincter muscle. This is done by passing a number 4 catgut suture on a heavy full curved, cutting needle through the full depth of both dimples, and then tying them securely, approximating the dimples. This suture, being large, has a great primary tort, and it will not tear through the fascia, the muscle or the thin anal skin. Then, with the rectal dilator, the muscles are slowly and carefully stretched and the suture is cut and withdrawn. This divulsing procedure paralyzes the muscles for a period of about ten days, and soon the muscle assumes its original tone. By means of the Barrett method of perineal repair, denudation is done. The torn or separated fibers and fasciae of the levator ani, the bulbocavernous, the transversus perinei and the internal sphincter are then dealt with in the customary manner, and lastly the fascial ends of the sphincter muscles are carefully isolated. Since all voluntary muscles have fasciotendinous terminations, any denudation or baring of the muscle ends may entirely destroy the function and power of the muscles. Hence the fascial and connective tissue cap on the ends of the muscles should be left untouched. The ends of both muscles are then picked up with a hard chromic number 1 catgut suture and the suture is carried through twice on both ends and tied securely. After the excess of vaginal mucosa is cut away, the subcuticular tissues are sutured with interrupted chromic sutures and, finally, the mucosa of the vagina and the skin are likewise approximated.

Virginia Medical Monthly, Richmond

61: 65-126 (May) 1934

Physiology of the Stomach. W. R. Bond, Richmond.—p. 65.
Differential Diagnosis of Diseases of the Stomach. B. P. Seward, Roanoke.—p. 70.
Medical Treatment of Diseases of the Stomach. A. F. Robertson Jr., Staunton.—p. 74.
Surgical Treatment of Diseases of the Stomach. C. B. Morton, University.—p. 77.
Further Observations on Continuous Intravenous Injection of Dextrose in Ringer's Solution. J. S. Horsley, Richmond.—p. 84.
Coronary Thrombosis: Report of Case with Some Comments on Diagnosis. E. G. Scott, Lynchburg.—p. 89.
X-Ray in the Diagnosis of Perforation of Stomach and Intestine. M. H. Todd, Norfolk.—p. 94.
Neonatal Shock and Asphyxia. W. D. Suggs, Richmond.—p. 97.
Priapism. A. A. Creecy, Newport News.—p. 103.
Birth Control: Social and Economic Need. R. W. Garnett, Danville.—p. 106.
Deaths from Diphtheria Directly Proportional to Percentage of Immunization. B. B. Bagby, Richmond.—p. 108.

FOREIGN

An asterisk (*) before a title indicates that the article is abstracted below. Single case reports and trials of new drugs are usually omitted.

Brain, London

57: 1-90 (March) 1934

*The Great Vein of Galen and the Syndrome of Increased Intracranial Pressure. T. H. B. Bedford.—p. 1.
Progressive Paralysis of the Nervus Interosseus Dorsalis. H. W. Woltman and J. R. Learmonth.—p. 25.
Subdural False Membrane or Hematoma (Pachymeningitis Interna Haemorrhagica) in Carcinomatosis and Sarcomatosis of the Dura Mater. Dorothy S. Russell and H. Cairns.—p. 32.
*Hour-Glass or Dumb-Bell Tumors of the Spine. H. Cohen.—p. 49.
*Cerebrospinal Fluid in Multiple Sclerosis. H. H. Merritt.—p. 56.
Syndrome of the Premotor Cortex in Man: Impairment of Skilled Movements, Forced Grasping, Spasticity and Vasomotor Disturbance. Margaret A. Kennard, H. R. Viets and J. F. Fulton.—p. 69.

The Great Vein of Galen and Increased Intracranial Pressure.—Bedford questions the authenticity of the two cases of hydrocephalus that Dandy considers to have been caused by obstruction of the great vein of Galen or of the straight sinus, and advances evidence to prove that no indisputable case of hydrocephalus following thrombosis of these venous channels has been reported. He describes the arrangement and communications of the veins of the velum interpositum in the dog and states that they are not identical with those found in man. Following the occlusion of any portion of the great vein of Galen, collateral circulation is rapidly established. The choroid plexuses remain unchanged in their gross appearance. In the dog, hydrocephalus does not follow experimental occlusion of the great vein of Galen. He suggests that the hydrocephalus found occasionally by Dandy and Blackfan and by Guleke in dogs in which the great vein of Galen had been occluded was not due to the obstruction of the vessel. It is easily explained as originating in a form of meningo-encephalitis that leads to an obstruction of the normal circulation of cerebrospinal fluid at the base of the brain.

Hour-Glass Tumors of the Spine.—Cohen encountered three cases of so-called hour-glass or dumb-bell tumors in a series of forty-two cases of compression paraplegia due to tumors of the spine or spinal cord. This type of tumor may arise at any level of the spine. They may arise intraspinally and grow outward through an intervertebral foramen or rarely between the laminae, forming an extraspinal portion, or they may arise extraspinally and extend through an intervertebral foramen, forming an intraspinal prolongation. The tumors may arise from any tissue—the membranes, nerves, ganglions, sympathetic nervous system, ligaments, cartilage, bone or fat, but a large number of them are fibroblastogenic or neurogenic and originate from the meninges, ganglions or nerve roots. The great majority are benign encapsulated growths, though a few are definitely malignant. The usual symptomatology of spinal compression accompanied by changes in the pressure and the chemistry of the cerebrospinal fluid may be present, with frequent and severe root pain resulting from the situation of the tumor; a palpable lump may be found in the cervical region and occasionally in the lumbar region, and symptoms such as pain on movement or rigidity may be caused by vertebral damage. Acquaintance with the lesion is primarily essential for its recognition. In order to prevent recurrence of the tumor, both intraspinal and extraspinal portions must be removed. Many cases of recurrence are caused by the nonrecognition of the extraspinal portion. The initial attack should be on the intraspinal portion.

Cerebrospinal Fluid in Multiple Sclerosis.—Merritt studied the cerebrospinal fluid in 100 cases of multiple sclerosis and summarizes the observations in 968 previously reported cases. He found that the cerebrospinal fluid is normal in less than 20 per cent of cases of multiple sclerosis. The intracranial pressure is usually normal but may occasionally be slightly elevated. A pressure greater than 200 mm. of cerebrospinal fluid is practically never found. Pleocytosis of a moderate grade (from 6 to 40 cells per cubic centimeter) occurred in 28 per cent of the recorded cases. A quantitative abnormality of the protein content of the fluid was present in 45 per cent of the cases. A quantitative increase in the protein content above the normal limit was present in 24 per cent. An abnormal colloidal gold curve was present in 71 per cent. The fluid is usually normal in regard to its chloride, dextrose, nonprotein nitrogen, calcium, phosphorus, sodium, total solid content and freezing point. The cerebrospinal fluid Wassermann reaction is always negative. There is a rough degree of correlation between the clinical course and the observations on the cerebrospinal fluid. A higher proportion of abnormalities is found in the fluids of active cases than in the fluids of stationary cases. A pleocytosis of more than 10 cells per cubic millimeter or coincident abnormalities in cells, protein and colloidal gold occur only in progressive cases. There are no changes in the cerebrospinal fluid that are pathognomonic of multiple sclerosis. The presence of a first or midzone colloidal gold curve with or without a slight pleocytosis and increased protein content, in an otherwise normal fluid, is supporting evidence for the diagnosis of multiple sclerosis in a clinically suggestive case provided there is no history of syphilis or of antisyphilitic treatment.

British Journal of Dermatology and Syphilis, London

46: 161-206 (April) 1934

Keratoderma Climactericum. H. Haxthausen.—p. 161.
Pili Annulati Occurring as a Family Disorder. A. Reyn.—p. 168.
Results of the Use of TAB Vaccine in Treatment of Some Diseases of the Skin. I. S. Gold.—p. 176.
Recurrences of Pityriasis Rosea: Report of Two Cases. A. Sayer, New York.—p. 181.

British Journal of Ophthalmology, London

18: 193-240 (April) 1934

Woolhouse (1666-1733-4). R. R. James.—p. 193.
Local Application of Antigonococcic Serum in Gonoblennorrhea and Other Eye Diseases. W. A. Wille.—p. 218.
Von Hippel's Disease: Case. E. V. Srinivasan.—p. 221.

British Journal of Radiology, London

7: 193-256 (April) 1934

*Review of Ewing's Tumor: Case Reports. I. Lattman.—p. 194.
Tumors of Bone: I. The American Registry of Bone Sarcoma. J. M. W. Morison.—p. 208.
Id.: II. Schüller's Disease (a Reticulo-Endotheliosis). J. M. W. Morison.—p. 213.
The Benign Giant-Cell Tumor of Bone. C. T. Holland.—p. 227.
Tumors of Bone. J. F. Brailsford.—p. 233.
Id.: J. E. A. Lynham.—p. 237.
Experiments on the Chorio-Allantoic Membrane of the Chick Egg with Regard to the Action of Homogeneous X-Ray Irradiation. E. S. Duthie.—p. 238.
Alarums and Excursions. C. Andrews.—p. 246.

Review of Ewing's Tumor.—Lattman states that a biopsy of Ewing's tumor should be done only in the cases in which the radiation test fails. A biopsy is of no more practical value than the radiation therapeutic test and it needlessly increases the hazard of early metastasis. The disease is, as a rule, confined to persons under 30 years of age. Men are more susceptible. The tumor involves the middle of the bone and a considerable portion of the shaft rather than the end. The epiphysis is never involved. The tumor causes a diffuse destruction of the bone, both cortical and central. It may also cause a limited amount of bone formation. Early in the disease the roentgenogram shows a widened cortex of increased density. Later in the disease the roentgenogram may show the "onion-skin-like" appearance considered by some as pathognomonic. The tumor is highly roentgen sensitive, a fact of prime importance in its diagnosis and treatment. The author gives reports of three cases.

British Medical Journal, London

1: 607-652 (April 7) 1934

*Treatment of Gonorrhea in Women by Mercurochrome, with Especial Reference to Complications: Further Report. R. S. Statham.—p. 607.
*Ephedrine Sulphate and Barium Chloride in the Prevention of Stokes-Adams Seizures. A. R. Gilchrist.—p. 610.
Transient Massive Albuminuria After Chromocystoscopy in a Psychoneurotic Individual. F. P. Weber.—p. 614.
Diabetes and Ultraviolet Irradiation Therapy. N. Morris and D. C. Suttie.—p. 614.
Axillobrachial Embolectomy: Case. G. E. Larks.—p. 616.
Injuries to Femoral Vessels During Hernia Operations. F. T. Ranson.—p. 618.

Treatment of Gonorrhea in Women.—Statham treated 158 cases of gonorrhea in women by swabbing with a 1 per cent solution of mercurochrome. The criteria of cure are three consecutive sets of smears from cervix and urethra, taken a month after the usual menstrual period; also a negative culture

from the same regions and a negative complement deviation test for gonorrhea. A final test in which smears, cultures and a complement deviation test are repeated is performed three months later. The reliability of this method is shown by the low incidence (five cases) of recurrence and the fact that a number of these patients were attending the gynecologic outpatient department at varying intervals after treatment, although none have ever given a positive result since treatment was stopped. Complications were noted in thirty-five cases (large erosion of cervix, salpingitis, bartholinitis, acute cystitis, rheumatism and eye symptoms); the other 123 patients made an uninterrupted recovery.

Ephedrine Sulphate in the Prevention of Stokes-Adams Seizures.—Gilchrist observed that ephedrine taken orally increased the ventricular rate in four of six cases of complete heart block. In two cases the test was indecisive. Barium chloride produced no demonstrable effect on the ventricular rate in the four cases responding to ephedrine. It did no harm in doses larger than those originally recommended. In two cases of complete heart block, complicated by occasional Stokes-Adams seizures, ephedrine taken for two and a half and one and a half years, respectively, proved entirely successful in the prevention of syncopal attacks. When the drug was discontinued, typical seizures returned. The author recommends that the dose of ephedrine should be the minimal quantity consistent with an acceleration of the resting ventricular rate. Larger doses may cause overstimulation. If the drug is then omitted suddenly, profound slowing of the ventricular rate, with repeated Stokes-Adams attacks, may occur, as a result, presumably, of exhaustion of the idioventricular center. A dose of one-half grain (0.032 Gm.) by mouth at intervals of eight hours may be sufficient. In the absence of positive observations it is difficult to credit barium chloride with the power of preventing Stokes-Adams seizures.

Indian Medical Gazette, Calcutta

69: 121-180 (March) 1934

Further Clinical Observations on Post-Kala-Azar Dermal Leishmaniasis. L. E. Napier and C. R. Das Gupta.—p. 121.
Treatment of Chronic Intestinal Amebiasis with Gavano, a Derivative of Ipecacuanha. R. N. Chopra, S. Sen and B. Sen.—p. 130.
Observations on Case of Coccidial Infection in Man (Isospora Belli Wenyon, 1923). B. M. Das Gupta.—p. 133.
Spontaneous Pneumothorax. R. Viswanathan.—p. 134.
The Acid and Sanitol Treatment of the Intestinal Fluxes. F. J. Palmer.—p. 137.
Observations on Normal Dietary of Infants and Children in Vizagapatam. M. V. R. Rao.—p. 142.

Irish Journal of Medical Science, Dublin

No. **99:** 97-144 (March) 1934

Prenatal Work and Child Welfare in Dublin. K. Reddin.—p. 97.
Icterus Gravis Neonatorum. W. R. F. Collis.—p. 106.
Observations on Pellagra: Report of Case. R. C. Cummins.—p. 113.
Importance of Postmortem Examinations. D. A. MacErlean.—p. 121.
Musica Mentis Medicina. J. H. T. Duggan.—p. 126.

Journal of Laryngology and Otology, London

49: 221-296 (April) 1934

Lymphatic System in Relation to Recurrent Laryngeal Nerve Paralysis Secondary to Cancer of the Breast. H. W. Schwartz.—p. 221.
Simplified Method of Determining Percentage of Actual Hearing Power in Tuning Fork Tests. J. Dundas-Grant.—p. 233.
Hearing Aids and Hearing Tests. C. S. Hallpike.—p. 240.
Use of Audiometer. G. P. Crowden.—p. 247.

Journal Obst. and Gynec. of Brit. Empire, Manchester

41: 165-332 (April) 1934

*Endometriosis Vesicae. R. B. Phillips.—p. 165.
The Biology of the Vagina in the Human Subject. R. Cruickshank and A. Sharman.—p. 190.
Twin Pregnancy (Demographic and Ethnic Study). K. Das.—p. 227.
The Inertia Syndrome. J. R. Goodall.—p. 256.
*Ketone Content of the Blood in Labor and Preeclamptic Toxemia: Note. D. F. Anderson.—p. 261.

Endometriosis Vesicae.—Phillips believes that, although endometriosis involving the bladder is one of the rare types of the disease, its incidence is far greater than has been assumed. The cystoscope should be used more frequently for diagnosis. The possibility of endometriosis of the bladder should always be considered in a patient presenting frequency of micturition, dysuria and hematuria. When this triad is cyclic and is exacerbated during the menstrual period and the cystoscopic examination shows blue-black cysts and endometriotic edema, the diagnosis of endometriosis of the bladder is verified. The method of choice in the treatment of vesical endometriosis is the roentgenologic induction of an artificial menopause. Surgical intervention, however, is indicated in those few cases in which the patient is considerably under the age of the menopause and desires children.

Ketone Content of Blood in Labor and Preeclamptic Toxemia.—Anderson states that while it does not seem necessary to resort to routine estimation of the acetone and diacetic acid in the blood of patients in labor, such an analysis may yield valuable information if labor is unduly prolonged. It is important to recognize that severe muscular effort takes place at this time and to take measures to prevent the development of acidosis by ensuring that the patient receives adequate, although necessarily limited nourishment. Barley sugar sucked regularly throughout the duration of labor is an efficient prophylactic. The information afforded by estimation of the blood acetone and diacetic acid in cases of toxemia of pregnancy does not justify the routine use of this examination. The high values obtained, however, would focus attention on the inadequacy of the diet, often limited to fluids, in many cases of albuminuric toxemia. Even if protein is restricted, a sufficient supply of carbohydrate ought to be ensured. A plea is made for the prevention or amelioration of edema by an adequate intake of easily assimilable protein, such as milk, since an increase of the blood urea or nonprotein nitrogen levels is not noted in cases of preeclamptic toxemia.

Lancet, London

1: 719-772 (April 7) 1934

Blood Brain Barrier in Infectious Diseases: Its Permeability to Toxins in Relation to Their Electrical Charges. U. Friedemann and A. Elkeles.—p. 719.
Toxemia of Acute Intestinal Obstruction: The Value of Bacillus Welchii Antitoxin in Its Treatment. R. L. Holt.—p. 724.
*Treatment of Tetany. I. Snapper.—p. 728.
The Mechanism of Homologous Tumor Immunity. T. Lumsden, T. Macrae and E. Skipper.—p. 731.
The Incidence of Adenoma of the Pituitary Body in Some Types of New Growth. H. G. Close.—p. 732.
Simple Fixtures Adapting a Table for Cranial or Spinal Operations. A. K. Henry.—p. 734.

Treatment of Tetany.—Snapper used an isolated portion of viosterol that does not contain vitamin D (A. T. 10 [Holtz]) in three cases of tetany, one idiopathic and two parathyroprivic. The blood calcium did not exceed 6 mg. per hundred cubic centimeters in any of them. Treatment was begun by giving 10 cc. of A. T. 10 on the first day and 5 cc. on the second and third days. Thereafter from 1 to 2 cc. was given daily for a short time. In all the patients the calcium content of the serum increased considerably after three to five days and the symptoms of tetany disappeared. After the first ten days a dose of from 1 to 2 cc. three times a week was usually sufficient to keep the calcium content normal. All other therapeutic measures could be stopped a day or two after the beginning of the A. T. 10 treatment. This oral method of handling tetany can be applied only in cases in which the calcium content of the serum can be watched, as otherwise there is a risk of accumulation.

Medical Journal of Australia, Sydney

1: 395-424 (March 24) 1934

Chronic Indigestion. A. E. Lee.—p. 395.
Diabetes. R. J. Millard.—p. 403.
Prostatism. R. G. S. Harris.—p. 407.
Treatment of Ununited Fractures N. D. Royle.—p. 409.

1: 425-454 (March 31) 1934

Present Position of Surgery, Radium and X-Rays in Gynecology. H. H. Schlink.—p. 425.
Dovetail Joint Simplified for Bone Graft Purposes. A. B. K. Watkins.—p. 430.
Studies on Composition of Gastric Juice: Part I. G. V. Rudd.—p. 431.
Two Simple Precautions to Prevent Accidents in the Use of Local Anesthetics. A. B. K. Watkins.—p. 436.
Use of Jackson's Crossed Cylinders: Note. K. O'Day.—p. 437.

Practitioner, London

132: 417-528 (April) 1934

Surgical Aspects of Dyspepsia. D. P. D. Wilkie.—p. 417.
Flatulent Dyspepsia: Its Causes and Treatment. J. Henderson.—p. 425.
Some Chronic Mild Digestive Disorders in Children. C. P. Lapage.—p. 434.
The Meaning of the Mobility of the Viscera. A. E. Barclay.—p. 451.
Gull's Disease (Spontaneous Myxedema of the Adult). L. F. Barker.—p. 463.
Some Aspects of Enuresis. W. Sheldon.—p. 475.
Euthanasia. T. E. Hammond.—p. 485.
Value of Auscultation of the Acute Abdomen. T. G. I. James.—p. 495.
Pica for the Neurotic. J. W. A. Cooper.—p. 500.
Medicolegal Problems in General Practice: IV. Death in Its Medicolegal Relations. S. Smith.—p. 504.

South African Medical Journal, Cape Town

8: 197-236 (March 24) 1934

Medicolegal Problems in General Practice. C. J. Albertyn.—p. 199.
Labels and Luggage. E. G. D. Drury.—p. 207.
Reminiscences: South American Experiences. W. Darley-Hartley.—p. 212.
The Payment of Hospital Staffs. H. P. Veale.—p. 219.
Tuberculosis in China. H. S. Gear.—p. 221.

Bulletin of Naval Medical Association, Japan, Tokyo

23: 1-8 (Feb.) 1934

Subjective Symptom Manifesting During the Sojourn in the Spoiled Air of High Pressure. K. Motegi and K. Ikemoto.—p. 1.
Influence of Heat on the Agglutinin and Complement Fixative Antibody in the Antiserum. Y. Ikegami.—p. 2.
Postmortem Examination of Metastatic Goiter Accompanied by Depressive Myelitis: Case. M. Ito.—p. 3.
Appendicitis and Blood Picture. Y. Kasuga.—p. 4.
A Case of Salivary Stone and a Case of Stenosis of Steno's Duct. H. Oikawa.—p. 5.
*Comparative Study of Anthelmintic Effect and of Clinical Aftermath in the Administration of Thymol and Carbon Tetrachloride. C. Nagayama.—p. 6.
Rectal Ulceration in Dysentery Bacillus Carrier: Four Cases. O. Miyao and S. Motoyama.—p. 7.

Anthelmintic Effect of Thymol and Carbon Tetrachloride.—Nagayama treated fifty-eight patients whose stools were positive for hookworm eggs with thymol and carbon tetrachloride. Thymol was toxic to the liver and especially to the kidney. Carbon tetrachloride was not as toxic to either the kidney or the liver as thymol. Abnormal elements were demonstrated in the urine.

Japanese Journal of Obstetrics and Gynecology, Kyoto

16: 519-570 (Dec.) 1933

Study on Tissue Respiration and Glycolysis in Obstetrics and Gynecology. J. Toyoshima.—p. 520.
Clinical Observation of the Histologic "Malignancy-Index" of Carcinoma in Cervix Uteri. J. Toyoshima.—p. 538.
Physicochemical Change of the Blood in Gynecologic Diseases: Part IV. Experimental Study on the Changes of the Blood in Gynecologic Diseases. M. Ikeda.—p. 542.
Effect of Medicaments on the Fatigue of Uterine Muscle: Part VI. Effects of Medicaments to the Uterine Muscle Exhausted by Irritations. H. Morimoto.—p. 545.
Experimental Study on Effects of Vitamin B to Female Genital Organs. J. Ueno.—p. 551.
Study on So-Called "Sphincterial Apparatus of Fallopian Tube." J. Ueno.—p. 562.

Journal of Oriental Medicine, South Manchuria

20: 1-24 (Jan.) 1934

*Gonococcic Infection of the Kidney: Report of Two Cases. K. Okada.—p. 1.
Vital Statistics of Chinese in Kwantung Province (Manchuria) 1925-1930. S. Kawabito.—p. 13.
Mechanism of Development of So-Called Stroma Necrosis of Liver in Obstructive Jaundice. Y. Morikawa.—p. 16.
Healing of Wounds Following Submucous Resection of Nasal Septum: Clinical and Experimental Study. T. Ogata.—p. 17.
Heat Coagulation of Serum. K. Kashiwabara.—p. 18.
Puero Operation: Three Cases. T. Takaichi.—p. 19.
Effects of Various Forms of Gastro-Enterostomy on Gastric Secretion. T. Yoshitoshi.—p. 20.
Quantitative Examination of Pregnancy Reaction in Case of Malignant Chorionepithelioma. K. Taketomi.—p. 21.
Diet Nutrition of Chinese in Manchuria: Chinese Diet in the Region of Mukden. T. H. Lu.—p. 22.
Complete Hysterocele in Virgin. K. Taketomi.—p. 24.

Gonococcic Infection of the Kidney.—Okada presents two cases of gonococcic infection of the kidney. He believes that, if the urine is distinctly turbid and much albumin is present without bladder symptoms in the course of gonorrhea, the gonococcic infection of the kidney is doubtful. Many intracellular gonococci were observed in the urine from the gonococcic kidney. The number of the organisms decreased in the period of convalescence and finally disappeared. The histologic examination of the organs obtained at necropsy in one case showed typical glomerulonephritis and formed abscesses in the spleen, liver and endocardium, and the kidney. The other patient presented symptoms of gonococcic nephritis and recovered in two months.

Annales Soc. Belge de Médecine Tropicale, Brussels

14: 1-150 (March 31) 1934

New Procedure for Cultivating Trypanosoma Gambiense on Artificial Mediums. Arnaud.—p. 3.
Active Antigenococcal Vaccine Against Blennorrhagia. Arnaud.—p. 5.
Treatment of Leprosy by Strong Doses of Ethyl Esters of Chaulmoogra Oil. Experimental Treatment by Iodine. J. Bartman.—p. 7.
Arsenic Resistance of Trypanosomes and Latent Bodies. G.-C. Bourgeignon.—p. 19.
*Use of Intracarotid Route in Treatment of Advanced Congo Trypanosomiasis: Action of Tryparsamide Injected in Carotid on Disturbances of Vision in Trypanosomiasis. D. Mora.—p. 25.
Study of Syndromes of Avitaminosis. A. Dumont.—p. 49.
Little Known Indigenous Practice: Therapeutic Absorption of Rubber Latex. R. Mouchet and L. Hoebeke.—p. 63.
Notes on Epizootic of Contagious Bovine Peripneumonia on Stanleyville Farm. J. Schwetz, Els and Caccavella.—p. 65.
Malarial Infection Found Among Indigenous Tribes of Lake Kivu and Lake Edward: Influence of Altitude. J. Schwetz, H. Baumann, Mlles. Peel and Bellhomme.—p. 75.
*Visual Disorders in Human Trypanosomiasis. F. Van Den Branden and M. Appelmans.—p. 91.
Cyclic Transmission of Resistant Strains of Trypanosoma Gambiense by Glossina Palpalis. L. van Hoof and C. Henrard.—p. 109.

Intracarotid Treatment of Congo Trypanosomiasis.—Mora reports thirty-one cases of Congo trypanosomiasis in which more than 100 carotid injections were given, most of them in the wilds by practitioners who had no other equipment than a table, an ordinary syringe and an injection needle. The technic, which was studied at the hospital of St. Paul at Loanda, is practicable for all physicians and is painless and without danger. It is nevertheless advisable to avoid more than three or four punctures of the same artery to prevent induration of the walls of the vessel. The toxicity of certain medicaments, such as methenamine and tryparsamide, does not seem to be greater by the intracarotid than by the intravenous or subcutaneous route. This statement does not apply to the drugs having a congestive action on the brain, such as mercurochrome and quinine. In cases of Congo trypanosomiasis presenting predominant cerebral symptoms the intracarotid route should be favored for the introduction of trypanocides, especially tryparsamide. The procedure is especially useful in treatment of ocular disorders occurring in the course of trypanosomiasis, provided the final lesion has not become established. The author believes that ocular disorders in trypanosomiasis are probably caused by irritation produced by the presence of the trypanosomes themselves.

Visual Disorders in Trypanosomiasis.—The statistics of Van Den Branden and Appelmans showed that 20 per cent of a group of 118 patients suffering from trypanosomiasis, who reached the second stage of the disease and were treated with tryparsamide, presented visual disorders during the course of treatment. This percentage is, however, inconstant since in another group of sixty-nine patients only 5.8 per cent showed ocular disorders. Ocular symptoms are more frequent among those in whom the cerebrospinal fluid is the most profoundly altered. This is a serious sign, for it demands cessation of arsenical treatment, rendering the prognosis less favorable. The origin of visual disturbances appears to be complicated. First there is an alteration of the nervous system and of the visual apparatus by the trypanosomes. Then follows the toxic action of tryparsamide and the endotoxins liberated by the massive destruction of trypanosomes. Ocular disturbances caused by atoxyl in chronic trypanosomiasis progress to blindness in spite of the interruption of treatment. Those arising during the course of treatment with tryparsamide are serious but usually cease to progress if the arsenical injections are stopped immediately. The visual apparatus is the touchstone of the nervous system from the arsenical standpoint because the least change is shown by disorders of visual acuity and of the visual field. These are easily noted by either the physician or the patient.

Presse Médicale, Paris

42: 593-616 (April 14) 1934

Desensitization or Habituation. Pasteur Vallery-Radot, G. Mauric and Mme. A. Hugo.—p. 593.
*Superiority of Combination of Sodium Nitrite and Sodium Thiosulphate for Treatment of Hydrocyanic Intoxication. E. Hug.—p. 594.
*Immediate Treatment of Articular Traumatisms Without Fracture by Intraligamentary Injections of Procaine Hydrochloride. G. Arnulf and P. Frieh.—p. 597.
Treatment of Addison's Disease by Cysteine. J. de Léobardy and A. Labesse.—p. 599.

Sodium Nitrite and Sodium Thiosulphate for Hydrocyanic Intoxication.—The normal animal has some ability to detoxify in the presence of cyanide poisoning. The toxic effect is the result, therefore, of the quantity of poison absorbed per kilogram weight and per minute and the coefficient of detoxification. Since the first can be modified only under experimental conditions, Hug proposes a classification of antidotes that may modify the course of the intoxication. The first group is the reducing sugars, such as dioxiacetone; the second, the methemoglobin forming substances, such as methylene blue and sodium nitrite; and finally the substances containing sulphur, such as sodium thiosulphate, colloidal sulphur and cystine. Each of these groups has some advantages and some disadvantages as detoxifying agents. Thus, sodium thiosulphate is a salt of practically no toxicity, but its action is rather slow and hence of lesser efficiency in advanced intoxication. Sodium nitrite, on the other hand, has a greater toxicity but a more rapid action. By injecting sodium nitrite first and sodium thiosulphate subsequently the author obtained better results experimentally as judged by the number of animals saved than by injecting these substances separately. The effect of these antidotes was not a simple summation but a true potentiality. He proposes, therefore, that ampules of amyl nitrite, a solution of 2 per cent sodium nitrite and another of 30 per cent sodium thiosulphate be kept in the satchel for emergency treatment. One patient who ingested potassium cyanide has already been treated by preliminary inhalation of amyl nitrite followed by intravenous injections of sodium nitrite and sodium thiosulphate. The result in this case was successful.

Treatment of Articular Traumatisms with Procaine Hydrochloride.—The treatment of sprains by intraligamentous injection of procaine hydrochloride as originally described by Leriche is extended and discussed in this report by Arnulf and Frieh. The technic is simple and involves the usual skin disinfection and the injection into the painful periarticular ligamentous tissue of from 0.5 to 1 per cent solution of procaine hydrochloride, repeated if necessary, but not exceeding a total quantity of 25 or 30 cc. The rationale of the procedure lies, according to the authors, in blocking the sensory nerve endings and thus stopping abnormal excitation, obstructing the reflex and interrupting the vicious cycle in which the phenomena resulting from vasodilatation continuously renew the excitability of the periarticular sensory elements. In both recent and late traumatisms, examples of each of which are cited, the results of injection are more favorable and more rapid, they believe, than by the customary immobilization.

Revue Méd.-Chir. des Maladies du Foie, Paris

9: 1-80 (Jan.-Feb.) 1934

*Takata-Ara Reaction: Test of Hepatic Insufficiency. G. Hugonot and R. Sohier.—p. 5.
Action of Slanic-Moldova Waters on Hepatomegaly in Biliary Lithiasis. L. Rodescu.—p. 39.
*Ernst-Forster Method for Measuring Blood Bilirubin. A. Gajdos.—p. 45.
Mucorrhea of Cholecystostomy. R. Bonneau.—p. 49.
Hepatohypophyseal Syndromes. G. Parturier and R. Becquet.—p. 52.

Takata-Ara Reaction.—The Takata-Ara reaction, according to Hugonot and Sohier, is a flocculation reaction obtained by placing the serum to be studied, diluted in convenient proportions with a freshly prepared reagent consisting of a 0.5 per cent mercuric chloride and 0.02 per cent fuchsin solution. This reaction is simple and may be practically employed in the clinical laboratory. It seems to reflect constantly any disorder of proteinemia characterized by an inversion of the serum albumin-globulin ratio and may supply or even replace the chemical tests of these albumins, which involve a complicated technic possible only in specialized laboratories. In applying the test to a large number of cases of different types it was apparent that it was always positive in the course of disturbances accompanying profound involvement of the hepatic parenchyma or serious functional insufficiency accompanying discoverable clinical disorders of proteinemia, such as one finds in the cirrhoses. It was negative in all other diseases or dysfunctions of the liver, such as cancer, infectious hepatitis and syphilitic hepatitis. Aside from diseases of the liver, it was found positive in severe infections and in protozoal infestation of the blood (kala-azar) in which a derangement of the blood albumins is found. It does not appear that a positive reaction alone can specifically point out a hepatic lesion, but a positive reaction added to the determination of a diminution of total protein in the serum seems to be an excellent test of a severe and predominant, if not exclusive, involvement of the liver. A positive reaction in a serum having a normal elevated ratio of total proteins only translates the intensity of the humoral disorder, without reference to the hepatic involvement, and often gives useful information on the course and prognosis of the disease.

Method for Measuring Blood Bilirubin.—Gajdos, in attempting to prove the value of the Ernst-Forster technic of blood bilirubin estimation, made parallel tests using this method and the classic one of van den Bergh. The Ernst-Forster reaction is made in the following manner: To 1 cc. of serum or plasma, 2 cc. of acetone is added; this is filtered, centrifugated and the supernatant fluid compared with a standard of potassium bichromate. To prepare this standard a mother solution in the proportion of 1:6,000 in distilled water is used. This solution corresponds to a bilirubin content of 0.329 mg. per hundred cubic centimeters. The comparison is made with the aid of a Duboscq apparatus or with a series of standards of graded dilutions. The figure found must be multipled by 3 because of the dilution. If the concentration of bilirubin is low, only 1.5 cc. of acetone is added to 1 cc. of serum. Thus the yellow color of the filtrate becomes darker. The factor of correction in this case is 2.5. The new element in this reaction is the use of acetone for the precipitation, allowing a lower dilution. The results of the comparative studies affirmed the fact that for measuring weak bilirubinemias this reaction is superior to that of van den Bergh.

Schweizerische medizinische Wochenschrift, Basel

64: 389-408 (May 5) 1934

*Bacteriologic Virulence During Pregnancy, Delivery and Puerperium. T. Koller.—p. 389.
Pellagra and Progressive Bulbar Paralysis. R. Flinker.—p. 394.
Intratracheal Injections of Iodized Poppy Seed Oil. J. Feuz.—p. 395.
Therapy of Tuberculous Sweats. F. Marcus and K. Weiss.—p. 397.

Bacteriologic Virulence During Pregnancy, Delivery and Puerperium.—Koller points out that the usual bacteriologic studies during pregnancy, delivery and the puerperium have given no satisfactory explanation for the pathogenesis of puerperal infections. The frequent demonstration of streptococci and staphylococci in the genital secretions gave rise to the assumption that merely the presence of these organisms was not sufficient. The virulence of the bacteria of the genital secretion was determined, and it was found that after spontaneous deliveries the incidence of temperature increases was not higher in the cases in which the virulence of the bacteria was positive than in those in which it was negative. However, in the incidence of inflammatory, genital complications during the puerperium a difference was noted, for such complications developing in only three out of 174 spontaneous deliveries in the presence of bacteria of negative virulence, while in the presence of bacteria of positive virulence they developed in four out of thirty-six cases. In deliveries terminated by operative interventions (cesarean sections or vaginal operations), the average of the temperature increases during the puerperium is much higher in the cases in which the organisms of the genital secretions are virulent than in those with nonvirulent organisms. The incidence and severity of inflammatory, genital complications after operative interventions likewise is influenced by the virulence of the organisms of the genital secretions, for mild disturbances developed in seven out of twenty-four cases in which there were nonvirulent organisms, while thirteen out of twenty-one in which virulent organisms were

present developed inflammatory complications. Some cases in the latter group were serious and one woman died as the result of the infection. The comparison of the course of the puerperium shows that after spontaneous deliveries, even in the presence of virulent vaginal bacteria, inflammatory complications are rare and generally heal rapidly, while after operative terminations of birth in the presence of virulent vaginal bacteria such disturbances are frequent and prolonged. This is a new proof that operative interventions should be undertaken only after careful deliberation.

Clinica Medica Italiana, Milan

65: 197-300 (March) 1934

Electrocardiographic Observations in Arterial Hypertension. E. Buccianti.—p. 199.
Histiocytomatosis: Case. L. Capani.—p. 225.
*Porphyrin in Pathogenesis of Pellagra. U. Bassi.—p. 241.
*Disappearance of Pulmonary Cavities After Exudative Pleurisy in Course of Artificial Pneumothorax. M. Belli.—p. 263.

Porphyrin in Pathogenesis of Pellagra.—Bassi maintains that a faulty diet producing symptoms of the nervous and digestive systems is the essential etiologic factor in pellagra. The characteristic cutaneous manifestations make such an etiologic factor an essential but it is not a sufficient explanation. The action of the sun's rays or of other mechanical and thermal stimuli becomes an external physiochemical agent in the etiology of the disease. The typical pellagrous skin is pathologically sensitive to the rays of the sun. Photosensitive properties of the skin are of endogenous origin and may be identified with porphyrin. Cutaneous manifestations appear late in the development of the disease. Several patients on a faulty diet examined during the winter presented disturbances of the digestive and nervous systems but did not show any hypersensitivity to natural and artificial light. Thus the alterations of metabolism leading to an abnormal formation of photosensitive endogenous substances occur late in the pathogenesis. In patients examined during the winter, neither an increased formation nor a pathologic elimination of porphyrin was demonstrable, even after irradiations with ultraviolet rays. The function of the liver and of the kidneys was in all instances normal. These observations demonstrate the importance of the liver in pigment metabolism. A hepatic dysfunction leads to porphyrinemia together with porphyrinuria. When the disease is associated with cutaneous manifestations, the presence of porphyrin in the serum and in the urine is not always demonstrable. The absence of porphyrinuria in subjects presenting blood in the feces from small intestinal hemorrhages is new evidence against the theory of the intestinal origin of porphyrin. The increase in the porphyrin in the circulation and in the tissues might be due to increased synthesis of the porphyrins, induced and maintained by the absence of vitamins in a faulty diet.

Disappearance of Pulmonary Cavities After Exudative Pleurisy in Course of Artificial Pneumothorax.—Belli observed the beneficial influence of a pneumothorax pleurisy on tuberculous pulmonary cavities in seven patients in whom pneumothorax was not effective and after exudative pleurisy occurred. In considering the duration of the pneumothorax of the same type at the time in which the parenchymal alterations took place, he maintains that there is a relation of cause and effect between the exudative pleurisy and the facts observed. Roentgenologic, clinical and bacteriologic studies impel the author to advance the hypothesis there had been a true and actual cure of the tuberculous cavities corresponding to the disappearance indicated by roentgenologic means. He emphasizes how difficult it is to confirm such a cure with certainty during a lifetime. These difficulties are increased in the described cases by the absence of observations on reexpanded lungs. In all cases a subjective and objective improvement was demonstrated in addition to the disappearance of the tubercle bacilli from the sputum. The author discusses the various theories regarding the mechanism of the beneficial influence of exudative pleurisy on parenchymal lesions. Following the ideas expressed by Tendeloo concerning the mechanism of pneumothorax, he is inclined to attribute to exudative pleurisy a complex of mechanical and immunizing factors favoring histogenous immunity. The author states in conclusion that the therapeutic utilization of these effusions may offer marked benefits that the pneumothorax alone could not produce.

Día Médico, Buenos Aires

6: 749-768 (April 9) 1934

Hydatid Cyst of Lung: Case. A. F. Landivar.—p. 749.
Initial Treatment of Dementia Paralytica. G. Bosch, E. D. Andia and C. R. Pereyra.—p. 755.
*Painful Abdominal Aorta in Abdominal Sympathosis. R. González Bosch.—p. 756.
Diagnosis of Psoriasis. H. Gougerot.—p. 758.

Painful Abdominal Aorta in Abdominal Sympathosis.—González Bosch says that the coexistence of an extreme, painful sensitiveness of the abdominal aorta and the iliac arteries, when these structures are pressed against the vertebral plane, with an abdominal syndrome characterized by painful crises, generally with epigastric localization and with the characteristics of celiac neuralgia, serves as the basis of the diagnosis of abdominal sympathosis (Taddei's abdominal sympathicosis). This syndrome is caused by a defective function of the abdominal sympathetic, caused by various local and general factors of constitutional, toxic, mechanical and inflammatory nature.

Archiv für klinische Chirurgie, Berlin

170: 327-484 (April 21) 1934

Etiology and Histogenesis of Meningitis Serosa Cerebralis. R. Beneke. p. 327.
Contribution to Knowledge of Malformations of Sacrococcygeal Area. A. Gridnev.—p. 355.
Research into Arterial Blood Supply of Nipple. G. H. Marcus.—p. 361.
Sterilization of Surgical Silk Sutures. Konrich.—p. 370.
*Injuries of Crucial Ligaments of Knee. F. Felsenreich.—p. 375.
Rôle of Pain in Recognition of Disease. Fenkner.—p. 409.
Influence of Suprarenals on Healing of Wounds. A. S. Kosdoba.—p. 435.
Origin of Cryptorchism. L. Moszkowicz.—p. 445.
*Demonstration of Traumatic Fat Embolism in Blood and Fatal Amounts of Fat. O. Susani.—p. 463.

Injuries of Crucial Ligaments of Knee.—Felsenreich states that, as the result of the enormous increase in sporting activities, injuries to the crucial ligaments of the knee joint became a frequent and typical lesion. These lesions are rather frequently overlooked in the course of arthrotomies. Immediate examination after the injury, examination after aspiration of hemarthrosis and of the anesthetized joint are of value in the diagnosis of acute cases. "Locking action" of the joint, abnormal adduction with the limb at 160 degrees and a positive roentgenogram constitute the cardinal symptoms. The "locking action sign" (forward or backward dislocation of the tibial head) is not present if the tibial spine is completely torn off or if a torn meniscus is interposed between the condyles. It is likewise absent in the presence of a large effusion in the knee or swelling of the capsule. A positive diagnosis can be made immediately after the accident before the swelling of the joint takes place and before the lesions pass into a chronic state. In the interim the diagnosis can be arrived at through repeated examinations, especially after aspiration of the knee or with the aid of local anesthesia of the knee. Inconstancy of the symptom of locking of the knee, an active "locking" sign and occasionally a snapping knee are suggestive of a chronic lesion of the crucial ligaments. The roentgenographic observations are positive in a higher percentage of such cases than in the recent ones. The aim of treatment is the restoration of the active and passive stability of the joint. In the recent cases the treatment is preeminently conservative except when the tibial spine is completely torn off or in the presence of a locked meniscus that cannot be reduced. In the after-treatment, active exercises are important. Recurrence of the locking of the knee is an indication for an operation of the conservative type, such as the removal of a fractured meniscus (loose body) or smoothing out of the interior of the joint. If the conservative procedure fails and there is loss of working capacity or capacity for sports, and if the patient requests it, the surgeon should resort to the operation of forming new ligaments from pedicled fascial transplants. The results of this procedure as gleaned from the literature and personal experience are quite good.

Fat Embolism.—Susani states that fat embolism is caused by neutral fat, principally triolein. For this reason, determinations of the total lipoids or of partial lipoids are of no diagnostic value. The normal neutral fat values as given in the literature are frequently grossly erroneous. The author presents exact methods for the determination of the presence and the amount of neutral fat and proposes a definite procedure. Increase in the neutral fat in the peripheral blood may be demonstrated in severe fractures complicated by shock. The author considers this increase a manifestation of latent fat embolism. There exists an alimentary hyperlipemia which is several times that of a normal starving state. The fatal amount of fat is dependent on the state of division of the fat. In a moderately coarse state of division, portions of the amount, which in the undivided state causes death, may have a fatal effect. Unbroken fat leads to cardiac death, while emulsified fat leads to death by suffocation. Conclusions as to the value of drugs in fat embolism caused by neutral fat, based on determination of lipoids, are not reliable. Estimation of neutral fat in patients with possible fat embolism assists in the diagnosis and suggests the correct therapeutic procedure.

Beiträge zur Klinik der Tuberkulose, Berlin

94: 447-558 (April 20) 1934. Partial Index

Clinical and Chemical Investigations on Anoxemia. H. W. Knipping, A. Koch and G. Matthiessen.—p. 447.
*Action of Influenza on Clinical and Hematologic Aspects of Pulmonary Tuberculosis. L. Mandel.—p. 473.
Pleuritic Marginal Zones as Residues of Costal Pleuritic Processes in Roentgenogram of Intrathoracic Tuberculosis of Childhood. K. Nussel.—p. 487.
*New Method of Anterolateral Thoracoplasty. W. Leiner.—p. 505.

Influenza and Pulmonary Tuberculosis.—Mandel relates his observations in the course of an influenza epidemic in a sanatorium for tuberculous patients. The epidemic was comparatively mild, since of the 104 patients none developed complications. He is convinced that in different influenza epidemics the course of the infection as well as the complications show a certain variability. He thinks that this may explain the difference in opinions about the effect of influenza on tuberculosis. In his own material, 11.25 per cent of the tuberculous patients developed considerable exacerbations, aside from mild impairments detectable only by laboratory methods. He therefore concludes that patients with tuberculosis should be protected against influenza as much as possible. If in spite of all precautions a tuberculous patient develops influenza he should be carefully watched during and after the attack, so that an exacerbation will be discovered immediately and proper therapeutic measures may be taken. The influenza-like disturbances developing after epidemics should be given particular attention, since they frequently mask a tuberculous relapse or an early infiltrate. Hematologic studies are helpful for the differential diagnosis, because the quantitative and qualitative hemogram as well as the sedimentation speed of influenza differ from those of tuberculosis.

Method of Anterolateral Thoracoplasty.—Leiner describes a new method of thoracoplasty, which was developed by Monaldi. The operation differs from other plastic operations on the thorax in that its aim is not bony fixation of the collapse but rather exclusion of the respiratory movements that injure the lung. For this reason union of the bones is intentionally prevented. By thoracographic studies, Monaldi found the line of greatest movement of the thorax, which is practically the same in all persons. If it is the aim of the operation to exclude all forces the changes of which disturb the resting position of the lung, it has to accomplish paralysis of the diaphragm, exclusion of the traction of the scaleni muscles with resection of the first rib, and resection of the upper ribs along the line of greatest movement. Then the lung can collapse and rest against the posterior thoracic wall and the mediastinum, which do not participate to a great extent in the respiratory movements. The newly produced physiologic condition is characterized by the paradoxical respiratory movement, and, since this condition is supposed to be permanent, a reunion of the ribs is prevented by destruction of the periosteum. The operation is performed under local anesthesia and in two stages. During the first session the ribs from the fourth to the eighth are resected, the incision being slightly curved or horizontal. During the second session the first four ribs are resected; the incision is made underneath the clavicle, then parasternal and in a curve downward. The resection is made along the line of greatest movement. The first rib is almost completely resected. The second, third and fourth ribs are resected from the cartilage to the median axillary line. Beginning with the fifth rib, the length of the resected portions decreases, it being from 5 to 10 cm. The periosteum is destroyed by solution of formaldehyde. In order to reduce the operative shock, especial attention is given to the preservation of the muscles. Paralysis of the phrenic nerve is obtained by crushing rather than by avulsion.

Deutsche medizinische Wochenschrift, Leipzig

60: 665-702 (May 4) 1934. Partial Index

Rupture of Uterus Resulting from Intravenous or Intramuscular Injection of Solution of Pituitary During Birth of Child. F. von Mikulicz.—p. 665.
*Aspects of Neuritis Developing in Persons Transplanting Beets. F. W. Kroll.—p. 669.
Structural Type of Patients with Rheumatism. L. von Bodav and L. von Paulicsky.—p. 671.
Schilling's Curve of Biologic Blood Picture in Course of Thermal Baths in Rheumatic Patients. F. Horn and M. Schiering.—p. 674.
Modification of Capillary Picture by Embrocations. H. Eckardt.—p. 677.

Neuritis in Persons Transplanting Beets.—Kroll calls attention to a paralysis of the muscles of the leg, which develops in persons who transplant beets. The work requires a squatting position and observers agree that the disorder is the result of pressure and dragging on the nerves of the leg, to which is added overexertion and, according to the author, also a rheumatic factor; namely, the dampness of the ground. The patients complain of formication and of the member going to sleep. Paralysis and severe pains follow. In the seven patients observed by the author the right leg was always more severely affected and he thinks that in persons working with the right hand an involvement of the right leg is more likely. In most cases the peroneal and tibial nerves were impaired and this resulted in a paralysis of all the muscles of the lower part of the leg, in manifestations of partial or total degeneration and in atrophies of moderate severity. The sensitivity disturbances were only partial in extent and intensity. The femoral nerve was involved in two instances and there was an increase or a decrease of the right or of both patellar reflexes in all except one of the patients. The achilles tendon reflexes likewise were changed. The prognosis of this form of neuritis seems to be favorable, at least as far as recovery is concerned, but the course of the healing process is rather slow. The author recommends heat therapy in the form of light cabinets, ultrashort waves or galvanization. Protein therapy seems to be helpful. In order to prevent paralysis, the workers should be instructed to quit this type of work as soon as formication sets in.

Klinische Wochenschrift, Berlin

13: 609-648 (April 28) 1934. Partial Index

*Paroxysmal Hypertension: Blood Pressure Crises and Tumor of Suprarenal Medulla. H. Kalk.—p. 613.
Specific Tumors of Suprarenal Medulla with Hypertension. F. Büchner.—p. 617.
Angina Pectoris and Allergy. K. P. von Eiselsberg.—p. 619.
Urea Content of Brain in the New-Born. C. Brarndli.—p. 622.
*New Circulatory Phenomenon in Disturbances of Arterial Blood Supply. L. Feil and P. Wermer.—p. 624.
Quinine-Calcium Therapy of Pneumonia. W. Schöndube.—p. 626.
*Hoof and Mouth Disease in Human Subjects. L. von Scheitz.—p. 630.

Blood Pressure Crises and Tumor of Suprarenal Medulla.—Kalk gives the history of a patient with a tumor of the suprarenal medulla which was successfully removed. In this case the blood pressure was not constantly increased. The hypertension occurred in attacks and the symptoms were limited to those traceable to the suprarenal medulla, the other incretory functions, with the exception of those of the parathyroids, being normal. The "counter regulation" with sudden decrease in blood pressure, redness of the face, contraction of the pupils, profuse sweating and salivation, which occurred at the height of the attacks, seemed to indicate the sudden elimination of a hormone antagonist of epinephrine. The author points out that cases of this nature may be more frequent than

is generally thought and he thinks that perhaps cases of paroxysmal hypertension are due to tumors of this type. Moreover, it is possible that the so-called blood pressure crises (Pal) are often due to tumors, or at least to a hyperfunction of the suprarenal medulla.

New Phenomenon in Disturbance of Arterial Blood Supply.—Feil and Wermer point out that in patients with endarteritis obliterans or arteriosclerosis of the vessels of the lower extremities with intermittent claudication the following phenomenon may be observed: When the patient bends the leg at the knee joint while lying face down or lifts the leg while lying on his back, the sole of the foot becomes pale within from thirty to ninety seconds and frequently paresthesias develop. The authors found this phenomenon of no particular value in the generally doubtful prognosis of endarteritis obliterans and beginning arteriosclerotic gangrene. However, they made a further observation which they consider significant. In a patient with thrombo-angiitis obliterans and intermittent claudication in the left leg, the lifting of the diseased member produced the pallor within thirty seconds, but after another thirty or 120 seconds the pallor was followed by a light red coloration, which first appeared in an area the size of a small coin and by the development of further spots gradually spread over the entire sole of the foot. The color was light red, not at all cyanotic; it differed noticeably from the color of the foot before it became pale. The authors watched for this phenomenon in other cases and observed that it appeared in eight out of ten cases of intermittent claudication in which the pallor was noted. The authors express the opinion that the presence of still dilatable vessels is a prerequisite for its development. On the basis of this phenomenon, the cases of intermittent claudication can be divided into three groups. 1. The mild cases in which lifting of the member causes no changes. 2. The cases of medium severity in which pallor and subsequent hyperemia develop. 3. The severe cases in which pallor only develops.

Hoof and Mouth Disease.—Von Scheitz states that human subjects are most readily infected by raw milk. Another mode of infection is contact with a diseased animal. Transmission from man to man is still somewhat doubtful. The incubation period is fairly short in human subjects, lasting as a rule two or three days. This is followed by the primary blisters and high fever with general debility. In the second phase the secondary blisters and aphthae develop. This phase may assume widely different aspects. In typical cases, grayish white aphthae about the size of a pinhead or blisters of the same size appear on the buccal mucous membrane, tongue and gums. The mucous membrane is swollen and painful, and salivation occurs. The food intake is difficult. The vesicles may appear on the fingers and toes, aphthae may develop on the nostrils and lips and the conjunctiva may become inflamed. The vesicles and aphthae burst after one or two days and the temperature decreases. The secondary symptoms may take the form of an inflammation of the nails, and cutaneous eruptions may appear on any part of the body, producing a generalized maculopapulous exanthem, which may become hemorrhagic. In many instances the secondary symptoms are rather mild and hardly noticeable. For this reason the diagnosis must be based mainly on the primary blisters and the typical fever curve. The most frequent complication of hoof and mouth disease is an involvement of the cardiac muscle. The disorder has been mistaken for milker's nodules, erythema exudativum multiforme and herpes. The author gives a history of one case which showed the typical double phase and the beneficial effect of intravenous injection of neoarsphenamine. Electrocardiography revealed a temporary involvement of the cardiac muscle. Vaccination of guinea-pigs with extract of the aphthae gave positive results and passage likewise was accomplished. One investigator vaccinated himself with a highly virulent strain four months after an infection and he did not contract the disease again. The author stresses the beneficial effects of neoarsphenamine. He also found that the application of nupercaine ointment counteracts the pain of the mucous membrane for six or seven hours. Irrigations with a 2 per cent boric acid solution or with camomile tea are helpful in the treatment of the oral symptoms.

Medizinische Klinik, Berlin

30: 533-564 (April 20) 1934. Partial Index

*Alcohol Injections in Treatment of Suppurating Fetid Disorders of Lungs and Pleura. Z. Brüll.—p. 538.

30: 565-596 (April 27) 1934. Partial Index

Treatment of Leukorrhea and of Erosion by Vaginal Application of Insulin. E. Klaften.—p. 571.
Composition of Suppositories and Possibility of Their Improvement. H. Bernhardt and K. Schulze.—p. 574.
Recurrent Increase in Temperature in Several Members of One Family. Poelchau.—p. 574.
*Alcohol Injections in Treatment of Suppurating Fetid Disorders of Lungs and Pleura. Z. Brüll.—p. 576.
Physical Foundations of Treatment with Ultrashort Waves. J. Patzold. —p. 579.

Alcohol Injections in Diseases of Lungs.—Intravenous alcohol therapy, first introduced in 1928 by Thursz for malignant tumors and puerperal sepsis and later found helpful by Landau and his associates in the treatment of pulmonary complications, was employed successfully by Brüll in various pulmonary disorders, such as abscess, gangrene, lobar pneumonia, bronchopneumonia and bronchiectasis. He administered the 15 per cent alcohol solution in distilled water in doses of 20, 25, 30, 35 or 50 cc. The highest dose was 80 cc. In contradistinction to the more concentrated alcohol solutions, the 15 per cent solution proved entirely harmless and was well tolerated by the vein. As the result of this injection treatment, eight patients with acute solitary pulmonary abscesses and gangrene recovered without operation. In cases presenting complications in neighboring organs, or severe diabetes, the alcohol therapy was unsuccessful, but temporary improvements were noted in some of these patients. The alcohol injections produced a considerable improvement in three out of eight patients with bronchiectasis; in two patients the effects were slight, while in the other three the treatment was entirely ineffective. Six out of eight patients with bronchopneumonia were greatly improved by the alcohol injections. In five cases of lobar pneumonia the alcohol injections exerted a favorable effect but did not shorten the course of the disease. Patients with pleural empyema were treated with intrapleural injections of the 15 per cent alcohol solution. The treatment was well tolerated and the results obtained thus far justify further trials. In pulmonary tuberculosis, the alcohol injections were ineffective.

Münchener medizinische Wochenschrift, Munich

81: 661-700 (May 4) 1934. Partial Index

Significance of Spontaneous Hypoglycemia. A. Engelhard.—p. 666.
*Prevention of Postoperative Tetany. M. Grasmann.—p. 668.
*Studies on Genesis of Mediastinal Emphysema and on Pneumothorax in Goiter Operations. J. Keis.—p. 669.
Physician's Activity and Organizing Measures in Mass Accidents. F. Rinecker.—p. 670.
Toxicologic Demonstration of Hypnotics of Barbituric Acid Group in Physician's Laboratory. W. Mohrschulz.—p. 672.
Practical Experiences with Salyrgan in Tubular Nephritis. G. Dorner. —p. 673.
*Treatment of So-Called Congenital Umbilical Hernia. H. Friedrich. —p. 675.
Pathogenesis and Prevention of "Pouch Stomach." O. Dyes.—p. 679.

Prevention of Postoperative Tetany.—Grasmann says that the upper parathyroids are usually found at the level of the cricoid cartilage, on the median edge of the thyroid, close to the lateral wall of the esophagus. His assumption that especial attention given to the preservation of the upper parathyroids would reduce postoperative tetany has been verified. The necessity of preserving the upper pole of the thyroid, which was recommended by de Quervain, is not yet commonly known by surgeons. The author considers the preservation of the posterior branch of the superior thyroid artery the most reliable measure against the impairment of the upper parathyroids, for when the trunk of the superior thyroid artery is ligated and severed there is great danger that the upper pole of the thyroid is removed too far and that the upper parathyroids are injured. He always preserves the entire posterior wall of the upper pole to a thickness of several millimeters.

Mediastinal Emphysema and Pneumothorax in Goiter Operations.—Keis relates the history of a woman, aged 32, who died following an operation for recurring goiter. The postmortem examination revealed mediastinal emphysema and bilateral pneumothorax. The author thinks that the position, size and adhesions of a substernal struma play a part in the

pathogenesis of mediastinal emphysema, but, since it develops also in suprasternal strumas, there must be other factors. In young persons, the mediastinal connective tissue is loose and the mediastinal pleurae are delicate and movable. The complete or partial retrogression of the thymus creates spatial differences, which in adults may be constitutionally increased by the presence of a long and narrow or a short and wide thorax. The changes that may be caused by pathologic processes in the organs embedded in the mediastinum should not be overlooked. The reaction sensitivity of the mediastinum is great and it is influenced by the comparatively frequent inflammatory conditions of the trachea and of the lymphatic apparatus. Such inflammatory reactions may lead to a rigidity of the mediastinal connective tissue and of the mediastinal pleurae, which in turn reduces the suction capacity of the mediastinum. In some of the cases of mediastinal emphysema a bilateral pneumothorax develops, although a pleural injury is not demonstrable. To determine the mechanism of the entrance of air into the thorax, mediastinal inflations were made on cadavers. The author points out that on living subjects the requirements for the loosening of the mediastinal pleurae are still more favorable. The respiratory movements have a massage-like effect on the mediastinum and press the air into the connective tissue interstices. The intrathoracic suction during inspiration lifts the pleura that rests loosely on the pericardium and thus facilitates the entrance of air. During expiration the air is pressed further. Since the vesicles permit an escape of air in case of a medium inflation of the mediastinum, the assumption is justified that the negative thoracic pressure during inspiration sucks air from them and that during expiration air is forced out. Thus, depending on the degree of mediastinal pressure, all degrees of pneumothorax may develop, if the mediastinum is not released in due time. Since the changes in mediastinal emphysema are nearly always bilateral, the fact that the pneumothorax is also generally bilateral is understandable. That mediastinal emphysema does not develop in pneumothorax is due to the fact that the mediastinal pleurae are pressed to their substratum.

Treatment of Congenital Umbilical Hernias.—Friedrich emphasizes the necessity of an early radical operation for cases of congenital umbilical hernia (eventration). The operation should be done immediately after birth or at least within the first six hours. The early intervention produces excellent results. Even in cases of extensive eventrations, provided no other serious complications are present, the nurslings usually can be saved. The author advises the use of local anesthesia with an addition of epinephrine. He gives a short description of a simplified surgical method, which he employed successfully in four cases. He considers suturing in three layers difficult and inadvisable and recommends a single suture. Small children tolerate an operation better than adults. He is convinced that the former unfavorable results and high mortality rates in operations for eventration were largely due to the fact that the intervention was made too late.

Geneeskundige Gids, The Hague

12: 313-336 (April 6) 1934

*Fat Content of Fecal Matter After Gastro-Enterostomy. I. Snapper. —p. 313.

12: 337-360 (April 13) 1934

*Fat Content of Fecal Matter After Gastro-Enterostomy. I. Snapper. —p. 337.

12: 361-384 (April 20) 1934

*Fat Content of Fecal Matter After Gastro-Enterostomy. I. Snapper. —p. 361.
Epidemiology of Malaria in Dutch Guiana. F. M. Peter.—p. 370.

Fat Content of Feces After Gastro-Enterostomy.—Snapper found that after gastro-enterostomy the fat content of the feces generally increases. He states that this is due to an excessively rapid passage of the chyme through the jejunum as a result of the operation, so that there is too little time left for the resorption of the fat. In some patients this chronic loss of fat in the feces seems to be the cause of emaciation and fatigue. Exceptionally it may be necessary in these cases to undo the gastro-enterostomy. If, however, true fatty feces and fatty diarrhea occur after gastro-enterostomy, there is always a gastrojejunocolic fistula. A peptic ulcer, which often develops in the jejunum after gastro-enterostomy, can cause adhesions to the colon. As a result there is a communication between the jejunum and colon and consequently an open connection between the stomach, jejunum and colon. The characteristic symptomatology of the condition includes fat diarrhea, eructation of fecal matter and roentgenologic filling of jejunum and stomach after administration of a barium enema. The author describes three patients presenting the characteristic symptoms of gastrojejunocolic fistula, one of whom showed symptoms of tetany. Operation of the gastrojejunocolic fistula in all cases gave immediate disappearance of fat from the feces, and the general condition of the patients improved rapidly. One patient developed new duodenal ulcers after the fistula had been closed. Several operations took place after this, the last terminating in death.

Hygiea, Stockholm

96: 193-224 (March 31) 1934

Quantitative Studies of Bone Marrow. N. G. Nordenson.—p. 193.

Studies of Bone Marrow.—Nordenson made about 170 punctures of the sternum employing the technic described by Arinkin. In normal bone marrow he found between 0.25 and 5.5 per cent myeloblasts; the sum of the myelocytes and the promyelocytes varied between 2 and 21.75 per cent, and the sum of the cells with rod-shaped nuclei and with young nuclei between 3 and 47 per cent, as a rule exceeding the sum of the myelocytes and the promyelocytes. In 400 white cells the number of megakaryocytes was never more than one, the number of reticulocytes averaged seventeen and there were from none to four pronormblasts, with an average of six basophilic normblasts and seventy normoblasts. In secondary anemia with and without leukocytosis and with leukopenia the number of the myeloblasts was about normal; the sum of the promyelocytes and the myelocytes varied from 16 to 40.25 per cent, being usually above normal, and the sum of cells with rod-shaped nuclei and with young nuclei varied from 11.75 to 41.25. There were thirty-five basophilic normoblasts for 400 white cells, as against six normally. The relation between basophilic normoblasts and those containing hemoglobin was 1:2, while in normal bone marrow it is 1:12. In leukocytosis and leukopenia without secondary anemia the percentage of increase of myelocytes and promyelocytes was in most cases more marked than in secondary anemia. Pernicious anemia in the "full stage" was characterized by a general activity of the myelopoietic and erythropoietic systems. The myeloblasts were increased, the sum of myelocytes and promyelocytes rose to between 20 and 46.25 per cent, and the sum of cells with rod-shaped nuclei and with young nuclei sank to between 0.25 and 10.5 per cent. The cell groups which normally dominate the bone marrow were thus reduced to a minority, and the promyelocytes and myelocytes, together with the myeloblasts, dominated the white cell picture of the bone marrow. The change in the other cells was perhaps even more marked. Most of the cells in the bone marrow in pernicious anemia showed signs of degeneration. On treatment with liver, the megaloblastosis lasted about twelve days before transition to definite normoblastosis. During remission the bone marrow lost its degenerated appearance and the cells regained their normal configuration. In a case of agranulocytosis the sternal marrow was almost empty, and in two cases of granulopenia the cells were remarkably abundant and showed considerable activity. The erythropoiesis was of the type seen in secondary anemia. In three cases of lymphogranulomatosis the sternal punctate was deficient in cells, especially in the two cases undergoing roentgen treatment, in which the marrow was inactive. In the third case, in which the last roentgen treatment occurred two months earlier, the marrow was not inactive. Cells of the erythrocyte series were few, with relative preponderance of basophilic normoblasts. In one case of acute and one of chronic lymphatic leukemia, particularly in the former, the punctate was deficient in cells. The myelopoietic and erythropoietic systems were practically destroyed.

CORRECTION

Hemisection of Cochlear Branch of Auditory Nerve.—In the abstract in THE JOURNAL of Dr. Walter E. Dandy's article, May 26, page 1806, in the third line the words "sensory root of the fifth nerve" should have been "cochlear branch of the auditory nerve."